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WEED ABSTRACTS

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NOTES FOR READERS OF WEED ABSTRACTS

Weed Abstracts endeavours to provide a comprehensive coverage of the world's literature on weeds, weed control and closely allied subjects. To this end over 370 journals and nearly 100 annual reports are regularly searched. Other journals, reports, bulletins, etc. are abstracted as they are seen. Additional coverage is obtained through agreements with other abstracting organisations.

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As far as possible journal abbreviations given in the World List of Scientific Periodicals are used. Holding libraries in Oxford and elsewhere are also taken from the World List, e.g. O.BO. = Botany Department, Oxford. Numbers at the end of abstracts, e.g. 75(492) are for internal use only.

When a paper is by more than one author, only the address of the first author is given.

Where an abstract is taken from an abstracting journal the acknowledgement follows the abstract, e.g. Herb.Abstr., 2,163. Where it is only quoted in part the acknowledgement is preceded by the word "from", e.g. From Biol.Abstr., 2,294.

The Information Section is always pleased to receive comments and suggestions for the improvement of Weed Abstracts.

* An asterisk before the author's name indicates that only the title of the paper has been seen.

Continued from the inside back cover.

ac	- acre(s)	in.	- inch(es)	p.s.i.	- pounds per square in.
a.e.	- acid equivalent	kg	- kilogram(s)	v/v	- volume/volume
a.i.	- active ingredient	l	- litre(s)	w/v	- weight/volume
cm	- centimetre(s)	lb	- pound(s)	w/w	- weight/weight
d.b.h.	- diameter at breast height	m	- metre(s)	>	- greater than
		ml	- millilitre(s)	<	- less than
ft	- foot (feet)	oz	- ounce(s)	#	- pounds per acre
g	- gram(s)	post-em.	- post-emergence	±	- with or without
gal	- gallon(s)	pre-em.	- pre-emergence		
ha	- hectare(s)	p.p.m.	- parts per million		

Language abbreviations: an initial capital denotes the language of the article, a small letter that of the summary: - Dan. - Danish, Du. - Dutch, E. - English, F. - French, G. - German, It. - Italian, Jap. - Japanese, Nor. - Norwegian, Russ. - Russian, Span. - Spanish, Sw. - Swedish.

See also 1172, 1186, 1197, 1203, 1207, 1208, 1213, 1215, 1216, 1217, 1218, 1221, 1226, 1235, 1245.

1112. KAWATEI, K. and YASUMASA KATO. (Tokyo Univ., Japan). [Studies on establishment of a weeding system in field cultivation. II. Influence of weeds on the growth and the yield of upland rice.] Proc.Crop Sci.Soc.Japan, 1959, 28,(1), 68-72, (Jap.e.), figs.
For the first few weeks after germination, upland rice is very sensitive to fast growing weeds such as Chenopodium album and Polygonum orientale. When such weeds are removed 2 or 3 weeks after germination of the rice, its growth is not retarded by new crops of weed seedlings. The next period of injury is after the stage of flower bud differentiation when a second weeding of the rice is required. - Biol. Abstr., Plant Sciences, 35,(7),19631.

1113. SMITH, R.J. (U.S.Dep.Agric., Stuttgart, Ark., U.S.A.) Nitrogen management in rice infested with barnyardgrass. Ark. Fm Res., 1960, 9,(1),2, figs.1.
Chlorpropham 6 # applied when the largest Echinochloa crusgalli plants were in the 1-2 leaf stage gave excellent control in 1957 and 1959 but not in 1958. Applying nitrogen when the weed was in the vegetative stage increased its competitiveness with rice and decreased crop yields; applying it 5 weeks later when the weed was heading increased the yield, but delayed the maturity, of rice and rendered it more susceptible to lodging. - L.K. [28(76.7)]

1114. * SZILVASSY, L. and SZÖKE, M.L. A rizsföldek nagyüzemi repülőgépesvegyszeres gyomirtasarol. [Chemical weed control in rice using aircraft.] Magyar mezőgazd., 1959, 14,(9),11-12,(Hungarian).

1115. STARKER, C. (Gandy Co., Owatonna, Minnesota, U.S.A.) Granular pesticides for 1960. Agric.Chemic., 1960, 15,(5),36-8, 105-6.
Includes a list of granular herbicides available for use in maize. - L.K. [O.W.]

1116. ZAKIROV, T. and EMIKH, B. [Experiments in cotton desiccation.] Khlopkovodstvo, 1959, 9,(10),16-19, tabs.3.
Includes the information that 2% sodium ethyl xanthate did not depress cotton yields if applied when > 5 bolls had opened. - L.K. [NIAE]

1117. UNITED STATES. (Stauffer Chem.Co., 380 Madison Ave., N.Y.17, U.S.A.) Eptam analogs. Tech.Inf.Sheet Stauffer Chem.Co. 1959, pp.3.
Gives the molecular weights, boiling points, d_4^{30} and n_D^{30} of EPTC, R-1607 (propyl dipropylthiolcarbamate), R-2060 (ethyl ethylbutylthiolcarbamate) and R-2061 (propyl ethylbutylthiolcarbamate). In preliminary pre-planting and pre-em. tests R-1607, R-2060 and R-2061 have given promising results on dry and snap beans, carrots, clover, maize, sweet corn and soybeans; promising results have also been given by R-1607 on cucumbers and peanuts, by R-2060 on sugar and red beets and peas and by R-2061 on snap and lima beans, sugar and red beets, peanuts, spinach and tomatoes. All 3 compounds have given good results on Echinochloa spp., Poa annua, Digitaria sanguinalis, Setaria spp., Sorghum halepense, Cyperus rotundus, C. esculentus, Avena fatua, Agropyron repens, Cenchrus pauciflorus, Eragrostis ciliarensis, Lamium amplexicaule, Chenopodium album, Amaranthus retroflexus, Portulaca oleracea, Richardia scabra and Capsella bursa-pastoris. - L.K. [O.W.]

1118. CANADA. 1960 Weed control recommendations for Eastern Canada. Nat.Weed Comm. E.Sect., 1960, pp.36.
Recommendations not given in the previous edition are: maize - atrazine 1-2 # pre-em. Soybeans - CDAA 3 + dinoseb 3 # pre-em. Field beans - CDAA 3 + dinoseb 3 # pre-em. Gladiolus - simazine 1-2 # as first shoots appear. Turf - for the control of crabgrass [Digitaria spp.] - disodium methyl arsonate 4-8 # and tricalcium arsenate 8-12 lb/1000 ft^2; for the control of chickweed [Stellaria media] mecoprop or 2,4,5-TP 1.5-2 # and between mid-September and mid-October 1 # (total) 2,4,5-T + 2,4-D; for the control of white clover - 1 # mecoprop or 2,4,5-TP. For soil sterilisation diuron 1.5-3 oz/100 ft^2, simazine 0.75-1.25 oz/100 ft^2. Typha control - Zytron [O-(2,4-dichlorophenyl)-O-methylisopropylphosphoroamidothioate?] 10 lb/100 gal. - L.K. [W18a(71)]

1119. UBRIZSY, G. [Chemical control of pasture weeds in Hungary.] Mezhdunar.Selsk.Zh., 1959, (4),42-51.
From Ref.Zh.Biol., 1960, 34804.

1120. RICHTER, W. and HOLZ, W. (Inst.Grünlandschädlinge, Philosophenweg 16, Oldenburg i O.,

Germany). Wuchsstoffe zur Unkrautbekämpfung im Grünland und ihre Wirkung auf den Pflanzenbestand. [Growth regulators for weed control in grassland and their effect on the composition of the flora.] Z.Acker u.-PflBau, 1960, 110,(3),289-98, (G.), figs.3,tabs.2,bibl.15.
Includes 2 tables which analyse in detail the effects over 3 years of spraying with MCPA + 2,4-D ± fertiliser on composition of a sward. Spraying + fertilising was particularly advantageous in the case of clovers which, at the beginning of the experiment, comprised only 2% of the sward and after 3 years only a trace on the control and sprayed only plots but rose to 15% on the sprayed + fertilised. The % of good, medium and poor grasses after 3 years were: controls 3, 12, 23; sprayed 2, 23, 32 and sprayed and fertilised 33, 18, 22. - L.K. [O.W.]

1121. MEEKLAH, F.A. (Invermay Res.Sta., New Zealand). Weed control in lucerne. N.Z.J.Agric., 1960, 100,(3),231-3.
A review covering the main weed problems encountered in both newly-sown and established lucerne. Includes the recommendation of dalapon 1-2 ℔ + 2,4-DB 1 ℔ for the control of seedling grass and broad-leaved weeds which germinate with the crop. - D.M.L.S. [O.RE.]

Noted

1122N. HOROWITZ, M. (Sta.Res. Agron., Rehovot,Israel). Weed control in sugar beet fields. Proc.bot.Soc.Israel, 1959.
A very brief summary of 4 years' work in Israel. - L.K. [30(569)]

HORTICULTURAL, ORNAMENTAL AND PLANTATION CROPS

See also 1117,1118,1203,1207, 1209,1210,1212,1215,1235,1245.

1123. BEESON, M.H. (Dep.Agric.,Wellington, New Zealand). Weed control in vegetables. N.Z.J.Agric., 1960, 100,(2),141.
Includes the recommendation of dalapon 5 ℔ applied in early autumn (after the asparagus bower has died), and again in spring if necessary, for the control of couch [Agropyron repens] in asparagus. Rates considerably higher than 5 ℔ have been used without injuring asparagus. - D.M.L.S. [O.RE.]

1124. KIRCHNER, H-A. and BOCHOW, H. Veränderung am Wurzelhals von Kohlrüben und Kohlpflanzen durch Einwirkung eines wuchsstoffhaltigen Herbizids. [Changes in the root collar of turnip and cabbage caused by a growth regulating herbicide.] NachrBl.dtsch.PflSchDienst,Berlin, 1960, 14,(2),37-8, (G.), figs.4,bibl.3.
Photographs and descriptions of deformities produced in turnip and kohlrabbi by growth regulator drift. - L.K. [O.W.]

1125. CARDONO, C., CAMACHO, L.H. and OROZCO, S.H. Diacol nima variedad mejorada de frijol. [Diacol nima - an improved variety of bean.] Bol.divulg. Bogota D.E.Min.agric.Colombia, 1959, 8, pp.24, (Span.)
Includes the recommendation for dwarf beans of dinoseb (ammonium) ("Sinox P.E." and "Premerge") 14 l/ha in 600 l water applied pre-em. - D.M.L.S. [1(86.1)]

1126. ELZENGA, G. (Inst.Tuinbouwgewassen, Dr. S.L.Mansholtlaan 15,Wageningen, Netherlands). [Chemical control of weeds in herbaceous nursery stock grown in the greenhouse.] Tijdschr.PlZiekt., 1959, 65,(2),70-1, (Du.)
Chlorpropham and PCP were injurious pre-sowing or pre-em. in Digitalis purpurea, D. lanata, Lobelia inflata, Valeriana officinalis, whereas Shell-W oil pre-em. gave excellent weed control with no crop injury. - L.K. [C.A.]

1127. BERRILL, F.W. (Dep.Agric.,Brisbane, Qd,Australia). Desucker your bananas one of these ways. Qd agric.J., 1960, 86,(1), 55-7, figs.3.
Two methods of desuckering are described: (1) by means of light or power kerosene poured into a hole gouged out of the stump after cutting, and (2) by use of the desuckering gouge - a tool with a narrow curved "blade" tapering to a point about 0.5 in. across and sharpened on both edges - which is inserted almost vertically into the sucker and turned, thus removing the growing point. These methods have given outstanding results in a trial at Maroochy Experiment Station and are to be preferred to the use of a desuckering bar or to cutting to ground level. - D.M.L.S. [O.RE.]

1128. COMELLI, A. Le bananier en Israel. [The banana in Israel.] Fruits, 1960, 15, (4), 173-84, figs.7.
The normal method of weed control is to spray with oil at 800 l/ha. - L.K. [O.W.]

1129. LIFSHITZ, N. [Experiments in controlling annual weeds in bananas.] Allon Hanotea, 1959, (7), (Hebrew).
4-5 year old sprinkler irrigated bananas were treated with simazine 0.5-1.5 kg/ha, neburon 2-4 kg/ha and diuron 0.96-1.92 kg/ha in December or May; the December plots were retreated with the highest rate of diuron or simazine in June. Neburon was insufficiently persistent and diuron was better than simazine. In another trial on flood irrigated bananas simazine gave better results than diuron. None of the treatments caused any crop injury of any importance. - D. Cohen. [28(569)]

1130. CANNON, R.C. and PRODONOFF, E.T. (Hort.Branch, Dep.Agric., Brisbane, Qd, Australia). Trials with CMU weedicides in Queensland pineapple plantations. Qd J. agric.Sci., 1959, 16, (3), 217-21, tabs.4.
In trials during 1954-6 monuron 4 # gave consistently better weed control than PCP 10 # (main spp.: Rhynchelytrum repens, Digitaria adscendens, Eleusine indica, Ageratum houstonianum, Stachys arvensis and Stylosanthes sundaica). No phytotoxic effects were caused by monuron at 8 # applied in November to pineapples planted in March, or by 4 # applied at various dates from April to July. - D.M.L.S. [O.RE.]

1131. BOURDIER, L. Les desherbants en viticulture. [Weed control in vineyards.] Progr.Agr.et Vitic., 1959, 286-91.
In experiments carried out in 1958 on different types of soil simazine was found to be more selective in grapes than monuron or diuron. Simazine caused no injury at 8 kg/ha but even this rate failed to control field bindweed and "kirkazona" [Aristolochia sp.]. - From Ref.Zh. Biol., 1960, 34812. - L.K.

1132. GREAT BRITAIN. Rep.E.Malling Res. Sta., 1959, 1960, pp.144.
p.9. Weedkillers. Strawberries. Chlorpropham 1 # and propham 6 # applied in November 2 weeks after planting reduced the maiden crop of Redgauntlet and Cambridge Favourite.
Blackcurrants. MCPB at up to 8 # in August again caused no serious damage. Simazine applied in November at 2.5 and 5 # caused no crop reduction and gave virtually complete weed control, except for Convolvulus arvensis, for 12 months. Monuron 5 and 10 # damaged the bushes and did not control Senecio vulgaris.
Raspberries. MCPB applied in August severely damaged only 1 unnamed variety (seedling 69/105) out of the 6 on which it was tested. Simazine 2.5 and 5 # applied in November caused no adverse effects; monuron 10 # caused typical leaf chlorosis on the fruiting cane but not on the young cane. - D.M.L.S. [O.RE.]

1133. NORTHERN IRELAND. Res.exp.Rec.Min. Agric.N.Ire.1958, 1959, 8, (2), pp.254.
pp.223-8. Weed control. (Results of 1958 trials). Weed survey. A survey showed that the commonest weeds in bush and cane fruit in all 6 counties were Poa annua, Ranunculus repens, and Agropyron repens in that order. In strawberries, Stellaria media and Senecio vulgaris were much more prevalent than A. repens.
Blackcurrants. After 2 years, no injury or crop reduction was caused by autumn, winter or spring applications of dalapon 3.75 # which killed P. annua, by dalapon 7.5 # applied in autumn or spring which checked A.repens, or by MCPA 2 # applied during late autumn or winter which gave good control of R. repens when followed by dry weather. MCPB applied both in the growing and dormant seasons was also promising for control of R. repens. Good weed control for 2 months without crop injury was obtained with fenuron 0.5 # + 2,4-DES 4 # or + chlorpropham 2 # applied in April. Simazine, propazine and trietazine at 1, 2, 4 and 8 # also gave good results in preliminary trials without injury during the season of application.
Raspberries. Dalapon 5 and 7.5 # was injurious to Malling Jewel both when applied in winter and early spring especially in spring. However, no injury or yield reduction the following season was caused by December application of dalapon 3.75 # to Malling V, Jewel, Exploit and Landmark; 2.25 # applied in December only checked P. annua. MCPA 1 and 2 # during December and January caused no injury to 8 varieties and gave good control of R. repens; 2 # + dalapon 3.75 # gave fairly good control of both R. repens and P. annua. 2,4-DES 4 # applied alone during the growing season had no toxic effects; fenuron 0.25 # and 0.5 # applied in May caused slight temporary chlorosis on the young canes and when mixed with 2,4-DES 4 # caused severe marginal necrosis and sometimes killed the growing tip but did not affect yield or the number and height of canes at the at the end of the season. The mixture gave much better weed control than either compound alone. Simazine 1-8 # applied in June to

Exploit after cultivation caused no injury or crop reduction during the season.

Gooseberries. In 1958 no injury was caused to 4 varieties by directedsprays of dalapon 3.75 # alone and with MCPA 2 # or chlorpropham 3 # or (after hoeing) by chlorprophem 2 # + fenuron 0.5 #, all treatments being applied in January and again in May. The chlorpropham-fenuron mixture suppressed germination of all weeds for 14 weeks after January application and 7 weeks after that in May.

Strawberries. Chlorpropham 2 # + fenuron 0.5 #, applied in November, caused no injury to var. Red Gauntlet; when applied in January no injury was caused to var. Talisman but Vigour, which starts to grow earlier, suffered serious injury and crop reduction. 2,4-DES 4 # + fenuron 0.25 # applied in April and May caused no yield reduction in several county trials, but a reduction of 15% at Loughgall; however, it is considered promising, and application in summer and early autumn caused only slight or no injury.

Apples. No injury was caused by MCPA 1-2 # applied in April and July as a directed spray (varieties not named) or by 1.5 # + dalapon 3.75 and 7.5 # applied in late April to Tydeman's Early Worcester, Ellison's Orange, Laxton's Fortune, Laxton's Superb, Lord Lambourne, Sunset, and Winston (implicitly, trees were over 5 years old); the mixture killed top growth of Lolium perenne, Dactylis glomerata and Holcus lanatus and checked couch [Agropyron repens] and R. repens. When applied in October to maiden trees, dalapon 3.75 and 7.5 # caused leaf stunting and chlorosis in the spring, Merton Worcester and Laxton's Fortune showing the greatest susceptibility, Lord Lambourne the least, and Howgate Wonder and Arthur Turner intermediate. However, all varieties had fully recovered by September. Trials at Loughgall indicate that with trees at least 3 years old 7.5 # appears to be the upper limit for dalapon. Amitrol 2-10 # applied in May to the ground around 8 year old Miller's Seedling and Cheddar Cross had no adverse effect during the season; D. glomerata, H. lanatus, and P. trivialis were slightly checked by 2 and 4 # and killed or severely injured at rates over 6 #, while 10 # gave practically complete weed control throughout the season except of Equisetum arvense. - D.M.L.S.
[17(416)

1134. WOOD, C.A. (Scot.Hort.Res.Inst., Mylnefield,Invergowrie,Dundee,Scotland). Herbicides for the commercial fruitgrower. Scot.Agric., 1960, 39,(4),214-18, bibl.5.

A brief review of experience (mainly in Northern Ireland) in raspberries, strawberries, blackcurrants and gooseberries, and apples and plums. The following results were obtained at Mylnefield:- dalapon 8 # applied to 6 year old Lloyd George and Malling Promise raspberries in February slightly reduced new cane growth. Simazine 2 # and monuron 4 # applied in February caused no injury to raspberries, controlled all weeds including heavy infestations of chickweed [Stellaria media] and annual meadow grass [Poa annua] and kept the ground weed free until September. Mixtures of 2,4-DES 4 # with propham 5 # or fenuron 0.5 # have given good results in newly cleaned raspberries from spring onwards, though fenuron has caused some marginal leaf-scorch. In strawberries simazine 1.5-2 # has caused severe injury and loss of plants when applied before or immediately after planting, indicating that plants must be established before application. A mixture of 2,4-DES 3-4 # + propham 5 # can be safely applied throughout the growing season and at Mylnefield gives good control of most annuals except henbit [Lamium amplexicaule], fumitory [Fumaria officinalis] and spp. of mayweed [Matricaria spp.] and chamomile [Matricaria chamomilla]. The substitution of fenuron or chlorpropham for propham is dangerous even in small amounts except in late autumn or early winter. - D.M.L.S.
[O.RE.]

1135. ORSENIGO, J.R. (Everglades Exp. Sta.,Belle Glade,Fla,U.S.A.) The effect of dalapon on sugarcane growth and yield. Mimeo.Rep.Everglades Sta., 1960, 60-22, pp.3, tabs.1.

Two directed applications of dalapon 3 # 1 month apart applied when grass weeds were young gave satisfactory weed control and did not reduce growth or yield of 96° sugar compared with the cultivated control. Yields were reduced by 2 x 4 #, > 2 sprays or overall applications. - L.K. [36(75.9)]

1136. HANSON, N.S. Weed control in Hawaii: a half million acres to spray. Sugar J., 1959, 22,(6),9-11, figs.5.

Herbicides formerly used in sugar cane, herbicides now in use, methods of application, the most important weed species and changes in vegetation are discussed. Herbicides in current use include a 3:1 mixture of TCA and dalapon for grass control, monuron + 2,4-D for broad leaf weed control, and, for general use, TCA + 2,4-D + dalapon. The addition of 5% CADE (diesel oil fortified

with PCP) to TCA + dalapon + 2,4-D is recommended as it improves wetting, marks the treated plants, and prevents corrosion of spraying machinery. The most important pre-em. compounds are monuron and diuron 3-4 #. Strains of Cynodon dactylon resistant to TCA and dalapon, of Commelina diffusa resistant to 2,4-D, and of Erechtites hieracifolia resistant to 2,4-D and monuron are developing. - L.K.

1137. ROCHECOUSTE, E. (Sugar Res.Inst., Reduit,Mauritius). Weed control. Rep. Maur.Sug.Ind.Res.Inst.1959, 67-71, figs., tabs.

In 3 years' trials monuron and diuron applied at up to 10 # had no effect on the yield or sucrose content of sugar cane. Diuron gave rather better results than monuron particularly on Kyllingia polyphylla, Oxalis repens, Digitaria timorensis and Pycreus ferrugineus. It appears that both compounds gave fairly good control of D. timorensis, Setaria barbata, S. palledifusca, Paspalum paniculatum, Ageratum conyzoides, Sonchus asper, Bidens pilosa Siegesbeckia orientalis, Crepis japonica, Oxalis latifolia and O. debilis. Dowpon [dalapon] even as a directed spray at 10 # had an adverse effect on 5 and 8 month old sugar cane - var. Ebene 1/37 was less affected than B.337, whereas TCA is used at up to 125 # without ill effects in cane fields.

Four biotypes of Cynodon dactylon have been found (in two 2n = 40 and in the other two 2n = 30). Differences in the epidermis and chromosomes are illustrated; the tetraploids appear to be more resistant to TCA and dalapon than the triploids.

Paspalidium geminatum. Monuron, diuron and simazine 10 and 20 #, Dowpon 10-80 #, sodium chlorate 200 and 400 #, amitrol 5 and 10 # and TCA 20-100 # and various mixtures thereof were compared. Diuron and simazine 20 # + sodium chlorate 400 # were best and May treatments were better than February-March, June-July or September-October.

Heliotropium amplexicaule. February and May applications were made of the following: (1) simazine 10 and 20 # + amitrol 10 #, (2) diuron 10 and 20 # + amitrol 10 #, (3) simazine 10 and 20 # + Dowpon 20 #, (4) diuron 10 and 20 # + Dowpon 20 #, (5) simazine 10 and 20 # + sodium chlorate 200 and 400 #, and (6) diuron 10 and 20 # + sodium chlorate 200 and 400 # - the higher rates of (2)-(6) gave the best results.

Typha javanica. Dowpon 10 # gave as good results as 20 # and both were better than (2,4-D + 2,4,5-T) ± Dowpon 5 #. - L.K. [O.W.]

1138. NEW ZEALAND. Service, 1960, 4,(3), 26.

In Kenya pigs have been found to graze weeds in pyrethrum without injuring the crop. - L.K. [O.W.]

1139. EHRENREICH, J.H. (For.Res.Cent., Columbia,Missouri,U.S.A.) Releasing understory pine increased herbage production. Sta.Note Cent.States For.Exp.Sta., 1959, 139, pp.2.

Hand spraying of the hardwoods by applying 2,4,5-T (20 lb ahg) in fuel oil to foliage of trees less than 3 ft tall, to low cut stumps of trees 3 ft tall and up to 3 in. d.b.h., and to low frills of trees larger than 3 in. d.b.h. reduced the hardwood crown cover from 90-95% to 20-30% (most of the reduction being in overstory) and resulted generally in a 5-6 fold increase in herbage production (mainly Andropogon scoparius, Danthonia spicata and Carex spp.) for stock or wild life for at least 3 years. Aerial spraying of 2,4,5-T (2 # in 4.5 gal fuel oil) increased herbage production by more than 17 times the first year, but slightly less than on the hand sprayed areas the second and third years. The reason for the difference in results was that the hand sprayed trees defoliated more slowly because they were killed from the boles instead of the crowns. - D.M.L.S. [O.F.]

Noted

1140N. PEARCE, G.A. and JAMIESON, W.R. (Dep.Agric.,Perth,W.Australia). Weed research. 8. Weed control in the vineyard. J.Agric. W.Aust., 1960, 1(IV). (4), 309-19, tabs.2.

Gives recommendations for the use of dalapon, monuron, and amitrol in vineyards and a list of available chemicals and distributors (presumably in W. Australia). - D.M.L.S. [O.RE.]

1141N. MALAYA. Tree and stump poisoning. R.R.I.Plant.Bull., 1960, 47,39-44.

The use of 2,4,5-T and sodium arsenite for clearing old rubber trees is compared and their use for thinning is described. Poisoning is compared with felling and mechanical clearance. - D.M.L.S. [O.RE.]

1142N. FLEMING, S.D. (Fisons Pest Control Ltd,Nairobi,Kenya,E.Africa). Herbicides in sisal cultivation - I. World Crops, 1960, 12,(6),219-21, figs.3. [O.W.]

See also 1137,1206.

1143. HAWKSWORTH, F.G. (For.Exp.Sta.,Fort Collins,Colorado,U.S.A.) Growth rate of dwarf mistletoe infections in relation to the crown class of the host. Res.Note Rocky Mtn For.exp.Sta., 1960, 41,pp.4, tabs.4.
Growth rates, as determined by the rate of formation of new shoots at the upper and lower margins of the infection, were determined for 234 main stem dwarf mistletoe infections. The results confirmed that dwarf mistletoes develop most rapidly in vigorously growing hosts. For both Arceuthobium americanum on lodge pole pine and A. vaginatum f. cryptopodum on ponderosa pine, the growth rate of infections in the boles of dominant trees was nearly twice that in suppressed trees. The rate of spread down the stem was about one third greater than upward. Contrary to previous reports, A. douglasii infections in Douglas fir progress proximally as well as distally. - Author's Summary (modified). - D.M.L.S. [O.F.]

1144. HAWKSWORTH, F.G. and GILL, L.S. (For.Exp.Sta.,Fort Collins,Colo.,U.S.A.) Rate of spread of dwarf mistletoe in ponderosa pine in the southwest. Res.Note Rocky Mtn For.exp.Sta., 1960, 42,pp.2, figs.1,tabs.1.
Measurements of the spread of Arceuthobium vaginatum f. cryptopodum on ponderosa pine showed that lateral spread, i.e. infection by seeds produced in the understory, begins after 20-30 years. The mean spread from overstory trees into dense stands 41 years of age was 51 ft (1.2/year) and for open-canopied stands 34 years of age 59 ft (1.7/year). There was no relationship between compass direction and distance from the seed source indicating that prevailing winds are not important in dissemination. - D.M.L.S. [O.F.]

1145. * HAWKSWORTH, F.G. Dwarf mistletoe of ponderosa pine in the southwest. For. Thesis, Yale Univ., 1958. [W21(M)]

1146. THODAY, D. (Univ.Coll.,Bangor, N.Wales). Modes of union and interaction between parasite and host in the Loranthaceae. V. Some South African Loranthoideae. Proc.Roy.Soc.B., 1960, 152,(947),143-62, figs.26,bibl.17.
With reference to the haustorial structure and behaviour of Loranthus elegans, L. prunifolius and L. glaucus. - L.K. [O.BO.]

1147. BALDEV, B. (Univ.,Delhi,India). In vitro responses of growth and development in Cuscuta reflexa Roxb. Phytomorphology, 1959, 9,(4),316-9, figs.8, tabs.1,bibl.8.

1148. DAVID, B.V. (Dist.agric.Office, Madras,India). A note on the total stem parasite Cuscuta hyalina, Roth. Madras agric.J., 1959, 46,(5),186-7, figs.1, bibl.1.
The author lists a number of hosts on which he has observed C. hyalina. - D.M.L.S. [C.A.]

1149. PAZOUREK, J. Parasitismus kokotice. [Parasitism by Cuscuta.] Vesmir, 1958, 37,(5),166-7, (Czech.)
Presents a review of the literature and the author's own observations illustrating the penetration of Cuscuta haustoria into the vascular system of clover and the formation of vascular tissue by Cuscuta. The relationships of Cuscuta with other plants are described. The formation of scleroids when the haustoria of Cuscuta penetrate the tissue of Datura stramonium and Solanum nigrum is the reason for Cuscuta's inability to live on these plants. Cuscuta is unable to develop on Melilotus alba due to the high osmotic pressure of the host cells and the presence of alkaloids. - Ref.Zh.Biol., 1960,30681.

1150. WILLIAMS, C.N. (Univ.Coll., Ibadan,Nigeria). The parasitism of witchweed - a review. W.A.J.Biol.Chem., 1958, 2,(3),57-73, figs.5,bibl.105.
The author discusses, briefly, the distribution of Striga lutea, S. hermonthica, S. orobanchoides, S. densiflora, S. euphrasioides and Sopubia ramosa, mentions some of their dicotyledenous hosts, and reviews their mode of parasitism, germination, germination stimulants, economic importance, and control by hand weeding, 2,4-D, sodium, manganese and calcium chlorates, mercuric chloride, copper sulphate, trap cropping, breeding of resistant crop varieties, soil conditioning, and biological control. (This abstract replaces 9,517 which was taken from an abstracting journal). - D.M.L.S. [1(66.9)]

1151. JAHN-DEESBACH, W. and VOGT, M. (Humboldt-Univ.,Berlin,Germany). Untersuchungen uber die Unkrautflora im langjährigen Nährstoffmangelversuch Thyrow bei Berlin. [Investigations on the weed flora in nutrient deficiency experiments carried out over several years at Thyrow near Berlin.] Z.Acker- u.PflBau, 1960, 110, (2),216-29, (G.e.), figs.4,tabs.1,bibl.13.

In 1937 an experiment was laid down on a sandy soil in which plots were repeatedly given farm yard manure and/or N, P, K and Ca in various combinations. From 1949-53 the whole area was given complete fertiliser and from 1954 onwards the previous treatments were recommenced. The plots were planted to a barley/potato rotation. On the plots given NPK Ca barley growth was vigorous and the only weeds to occur were the most widespread, i.e. Equisetum arvense, Chenopodium album, Polygonum convolvulus, Panicum and Setaria. The plots lacking P were similar except that Spergula arvensis was coming in. Plots treated with farm yard manure + NPKCa supported vigorous growth of barley and showed an increase in Chenopodium album, Polygonum persicaria, Galinsoga parviflora, and Stellaria media; P. convolvulus stayed constant and E. arvense disappeared. On the Ca-deficient plots crop growth was particularly vigorous and from 1954-8 there was a tendency for Panicum lineare, Setaria viridis and Spergula arvensis to increase and for Scleranthus annuus, Rumex acetosella and Chenopodium album to decrease while there was no change in Polygonum convolvulus. The K-deficient plots had poor barley, and more weed growth and a richer weed flora than the preceding plots - Chenopodium album, P. convolvolus, Rumex acetosella, S. annuus, S. arvensis, P. persicaria all increased from 1954-8, while there was no change in E. arvense Panicum and Setaria or Erodium cicutarium. The N-deficient plots had poor growth of barley and heavy weed growth, especially of Vicia spp.; there was an increase in P. convolvulus and Spergula arvensis but a decline in all other spp. The unfertilised plots also had poor growth of barley and heavy weed growth particularly of Spergula arvensis, Panicum and Setaria. In the plots given FYM complications were caused by seed introduced with the manure. - L.K. [O.W.]

1152. TUCAKOV, J. The areas and the exploitation of the Matricaria chamomilla L. in Jugoslavia. Materiae Vegetabilis, 1957, 2,161-73.

The main inhibitory factors in the growth of M. chamomilla in Yugoslavia are a dry spring and the hot southeast wind. The best growth occurs on a loamy salt soil. The optimum pH is 8 but the plant will tolerate pH 9 on soils not too rich in sodium chloride and with adequate rainfall in March to April. - From Z.PflKrankh., 67,42. - L.K.

1153. LARSEN, K. and PEDERSEN, A. Papaveraceernes, Fumariaceernes, Nymphaeaceernes, Ceratophyllaceernes, Elatinaceernes, Halorrhagidaceernes, Hippuridaceernes og Lythraceernes udbredelse i Danmark. [The distribution of the Papaveraceae, Fumariaceae, Nymphaceae, Ceratophyllaceae, Elatinaceae, Halorrhagidaceae, Hippuridaceae and Lythraceae in Denmark.] Bot.Tidsskr., 1960, 56,(1), 37-86, (Dan.e.), figs.24, bibl.

Includes reference to the distribution in Denmark of Chelidonium majus, Papaver rhoeas, P. argemone, P. dubium, Fumaria officinalis, Nuphar spp., Nymphaea spp., Ceratophyllum spp., Myriophyllum spp. and Lythrum salicaria. - L.K. [O.BO.]

1154. PETROV, V.V. and PODDUBNYI, N.N. [Characterising soil conditions where Glaux maritima L. grows.] Izv.Tim.Akad.Agric., 1960, (2),235-6, (Russ.e.), tabs.1,bibl.2.

A soil on which G. maritima was found to be growing consisted, throughout nearly the whole profile, of light clay. Treating with 10% hydrochloric acid caused no effervescence. At the end of June the ground water was at a depth of 90 cm. The contents of soluble salts at various depths (Cl,SO_4, Ca, Mg and Na + K) are also given. - L.K. [O.W.]

1155. * STANCEVICIUS, A. Retesniu piktzoliu radimo vietos Lietuvos TSR. [New occurrences of rare weeds in the Latvian S.S.R.] Biol. inst.darbai.LietTSR Mokslu Akad.Trud.Inst. Biol.AN LitSSR, 1958, 3,93-9. (Lithuanian. russ.)

1156. * STRAND, R.F. Ecological aspects of the N nutrition of fireweed (Epilobium angustifolium) with reference to nitrification in several forest soils of the Douglas fir region. For.Thesis, Univ.Wash., 1957.

1157. THURSTON, J.M. (Rothamsted Exp.Sta., Harpenden, Herts., England). A comparative study of the growth of wild oats (Avena fatua L. and A. ludoviciana Dur.) and of cultivated cereals with varied nitrogen supply. Ann.appl.Biol., 1959, 47,(4),716-39, tabs.11,bibl.13.

Growth analysis of A. fatua and A. ludoviciana grown in pots with different levels of nitrogen (N) supply showed many similarities to spring barley, winter oats and winter wheat. Small differences that could affect competition between wild oats and cereals occurred mainly in the seedlings. Wild oat seedlings were smaller in total dry weight, total N content, leaf area and number of shoots. However, very young wild oat plants had higher net assimilation rates than the cultivated cereals and soon caught up and passed them. The difference in net assimilation rate did not persist, and in the later stages of growth differences in dry matter production depended mainly on differences in leaf area. 98-100% of the wild oat seeds and none of the crop seeds were dormant 2 months after harvest.

Ear emergence in wild oats spread over a longer period, the range of ear heights was greater and the tallest ears taller than in the corresponding cultivated cereals. Assimilation in the ear appeared to account for less of the total dry matter of the plants of wild and cultivated oats than of wheat. The wild oats produced more seeds per plant than the cultivated cereals, but their 1000-grain weight, and hence their total dry weight of seeds, was lower.

Addition of N to the soil affected the growth of wild oats in the same way as the cultivated cereals; they took up the same amount of N per plant as winter oats and winter wheat but more than spring barley.

It is concluded that wild oats are most susceptible in the seedling stage to competition from the crop and that nitrogenous fertilizer applied to an infested field is unlikely to alter the balance between the yields of crop and of wild oats. - Author's summary (modified). - D.M.L.S. [O.RE.]

1158. MATTHEWS, L.J. (Dep.Agric., Wellington, New Zealand). Weed identification and control. Buttercups. N.Z.J.Agric., 1960, 100,(1),23-5, figs.3.

An identification key is given for Ranunculus spp. parviflorus, acris, repens, sardous, flammula, rivularis and sceleratus. The last 3 are recognised as poisonous. Recommendations for control are included. - D.M.L.S. [O.RE.]

1159. TOMASZEWSI, A. Badania cytologiczne nad czterema gatunkami rodzaju Ranunculus L. [Cytological studies on 4 spp. of the genus Ranunculus L.] Acta Soc.Bot.Polon., 1959, 28,(4),695-704, (Polish.e.), figs.4,tabs.1, bibl.16.

Discusses the chromosome numbers and morphology of R. acer, R. bulbosus, R. repens, and R. lanuginosus found on a variety of natural habitats in S. Poland and the Tatra Mountains. Only R. acer showed any karyological differentiation - a mountain and a lowland type were found. - From Author's Summary. - L.K. [O.BO.]

1160. BERGGREN, G. Beskrivning av vissa odlade och vildväxande Brassica- och Sinapis-arters frökarakträrer jämte en härpa grundad bestämmingsnyckel. [Seed characters of certain cultivated and wild species of Brassica and Sinapis and a key for their determination.] Medd.Frökontrollanst., Stockh., 1960, (35), 28-64, (Sw.e.), figs., tabs.2,bibl.8.

The species, the seeds of which are described in detail and illustrated photographically, include Sinapis arvensis. - L.K. [161(485)]

1161. HUBER, A. [The sources of dissemination of weed seeds in the fields of Israel.] Thesis Hebrew Univ.Jerusalem, 1960, (Hebrew).

Presents an analysis of the content of viable seeds of 2 different soil types (sampled at 5 depths) and of cow, sheep and poultry manure (both fresh and stored for various periods). - D.Cohen. [O.W.]

1162. HUMPHREYS, L.R. Studies in the germination, early growth, drought survival and field establishment of buffel grass (Cenchrus ciliaris) and of birdwood grass (C. setigerus, Vahl) with particular reference to the Yalleroi District. J.Aust. Inst.Agric.Sci., 1959, 25,(4),321-2.

Germination of 4 strains of buffel grass improved from 2% at harvest to 38% after 8 months dry storage at room temperature. Concentrated sulphuric acid also increased the rate and % germination.

Results of tests with moist chilling, scarification, sowing depth, fertiliser application, and seedling drought survival of buffel grass and birdwood grass are discussed very briefly. - J.W.B. [O.RE.]

1163. PODOPRIGORA, V.S. [The viability of seeds of late spring weeds in steppe soils of the U.S.S.R.] Bot.Zh. S.S.S.R., 1960, 45,(2),272-6, (Russ.), tabs.3,bibl.
Seeds taken from the upper 35 cm of the soil and stored under laboratory conditions showed the following viability: Setaria glauca and S. viridis >6 years, Echinochloa crusgalli >7 years, Amaranthus albus >8 years, Chenopodium album >6 years, Polycnemum arvense >7 years and Salsola ruthenica >2 years. Seeds in the uppermost 10 cm of the soil decayed more speedily than those in the next 10 cm. - From author's conclusions. - L.K. [O.R.]

1164. RACOVITZA, A. Nouvelles observations sur la germination des graines d'Orobanche ramosa L. [New observations on the germination of seeds of Orobanche ramosa L.] J.Agric.trop.Bot.appl., 1959, 6,(1/3),111-4, (F.)
Superphosphate was found to increase the root exudates of Carum ajowan and thus the germination of O. ramosa. Fluctuating temperatures between 6 and 8° also increased germination. - From Ref.Zh.Biol., 1960, 25249. - L.K.

1165. VODAK, A. Klic. Semena a plody kulturnich rostlin a nejcastejsich plevelu. [A book for the recognition of seeds or fruits of crops and the most common weeds.] Cs.Akad.Zemed.Ved.Prague, 1956, pp.101, tabs.29.
From Z.PflKrankh., 67,238.

1166. * SYEV, S. [Weed seeds in the ploughed zone with various water regimes in irrigated rice.] Godishnik Inzh.-Stroit. Inst.Fak.Stroit.,Arkhitekt.,Khidrotekh., 1958, 10,(1),201-31,(Bulgarian.russ.)

1167. TSCHIRLEY, F.H. and MARTIN, S.C. (U.S.Dep.Agric.,Tucson,Arizona,U.S.A.) Germination and longevity of velvet mesquite seed in soil. J.Range Mgmt, 1960, 13,(2),94-7, figs.1,tabs.2,bibl.2.
Rate-of-germination tests on Prosopis juliflora var. velutina showed that most of the seeds germinated in July and August of the summer following an August planting date. Elevation and soil type appeared to have little effect on germination, but only 15.8% of the hulled seeds germinated compared with 44.7% of seed planted in pod segments. Longevity tests showed some seed to be viable after 10 years of burial even where soil moisture had been adequate for germination; the discovery of one live, recently-sprouted seedling gave proof of this. - J.W.B. [O.W.]

1168. * LAMBERT, D.F. The effect of competition on diameter growth of water oak. For. Thesis, Louisiana State Univ., 1957.

1169. MARTIN, P. and RADEMACHER, B. (Landw. Hochschule,Stuttgart-Hohenheim,Germany). Untersuchungen zur Frage der Wurzelallelopathie von Kulturpflanzen und Unkräutern. [Investigations of the root allelopathy of crops and weeds.] Beitr.Biol.Pfl., 1960, 35,(2),214-37, (G.), figs.6,tabs.9,bibl.21.
The interactions of the roots of crops and weeds were studied by growing them separately in inter-connected nutrient culture solutions. Rye and wheat inhibited the growth of Matricaria maritima whereas oats promoted it. Rye did not inhibit Papaver rhoeas, while oats did. Rye and oats had an equally inhibitory effect on Sinapis arvensis. Potatoes did not decrease the growth of Sinapis alba, but the growth of potatoes was reduced. Polygonum persicaria markedly reduced flax and potatoes; potatoes had little effect on Polygonum, whereas flax was inhibitory. Analysis of the main nutrients in the medium at the end of the experiment suggest that these were unlikely to be a causative factor. - L.K. [O.BO.]

1170. RACZ, J. K otazke vzajomnych vztahov medzi kulturnymi ratlinami a burinami. [The problem of the inter-relationships of crops and weeds. Biol. Prace, 1959, V/5,pp.75, (Slovak,russ.g.)
The author studied the inter-relationships of various crops (autumn sown: rye, wheat, rape, vetch; spring sown: wheat, oats, barley, peas, flax, maize, vetch + oats + barley) and arable weeds (Sinapis arvensis L., Cirsium arvense Scop., Centaurea cyanus L., Vicia hirsuta S.F.Gr., Tripleurospermum maritimum (L.) Koch., Scleranthus annuus L., Polygonum lapathifolium L. and Raphanus raphanistrum L.) during germination and growth. The development of mixed sowings and the influence of various plant and soil extracts on the germination of seeds of crops was observed. Occasional stimulatory and frequent inhibitory or lack of any reactions were observed and give indications for promising rotations for the benefit of the crops. - Z.PflKrankh., 67,103.

1171. CITERRI, B. Il rilievo fitosociologico delle risaie come base per la lotta chimica contro le malerbe. [Phytosocial analysis of ricefields as a basis for chemical weed control.] Il Riso, 1959, 8,(8), 3-6, (It.), tabs.3.
Describes the methods used in Italian institutes for calculating plant coverage, abundance and dominance of individual spp., periodicity (i.e. plant development in relation to period), and efficacy of products used. - D.M.L.S. [66(45)]

1172. CONNOR, H.E. (Dep.Sci.Indust.Res., Christchurch,New Zealand). Nassella tussock in Argentina. N.Z.J.Agric., 1960, 100,(1), 18-21, figs.5.
The author describes his observations, during a visit, of the distribution, ecology, extent of grazing, and conditions favourable to growth, of Stipa trichotoma (the correct name for Nassella trichotoma) in Argentina, where it is not a weed, and contrasts this data with that concerning S. trichotoma in New Zealand where it has become a serious weed. - D.M.L.S. [O.RE.]

1173. FULTS, J.L. (State Univ.,Colorado, U.S.A.) Colorado turfgrasses - some basic facts concerning grasses. Circ.Colorado State Univ., 1959, 201-A, pp.28, figs.53.
Consists of descriptions and illustrations of the vegetative parts of grasses; details of their growth; tools needed for their identification; a vegetative key to 51 turfgrasses and weedy grasses frequently found in Colorado turf; and illustrations of 50 of these showing the collar, ligule and auricle in detail. An alphabetical list of the botanical names gives the common name of each grass. - J.W.B. [43(78.8)]

1174. THOMASON, I.J. and DICKSON, J.G. (Univ.,Riverside,Calif.,U.S.A.) Influence of soil temperature on seedling blight of smooth bromegrass. Phytopathology, 1960, 50,(1),1-7, figs.4,tabs.4,bibl.14.
Bromus inermis. [O.BO.]

1175. HORIKAWA, Y. and MIYAWAKI, A. [The influence of the typhoon Ruth on weeds.] Hikobia (Hiroshima), 1952, 1,(3/4),151-62, (Jap.e.)
Damage to weeds by immersion in sea-water and from violent winds during and following a typhoon is greater in comparison with trees and crops than would be expected. The degree of damage varied with species and with life-form, although almost all weeds were injured. In general, monocotyledonous leaves were cut and withered at the tip whereas most dicotyledonous leaves died at the margins or throughout. Weeds showed perceptibly greater properties of revival than crop plants, so that in general typhoons inhibit crops and encourage weed development. Some weeds with withered leaves were observed to come into flower and even to produce fruit. - Biol.Abstr., (Plant Sciences), 35, 20255.

1176. DALE, J.L. (Coll.Agric.,Fayetteville, Ark.,U.S.A.) A leaf spot disease of Bermudagrass. Ark.Fm Res., 1959, 8,(6),7, figs.1, tabs.1. [29(76.7)]

1177. * NELSON, H.S. The phenology of goatweed (Hypericum perforatum) in relation to the behaviour of goatweed beetles (Chrysolina gemellata and C. hyperici) in Western Montana. For.Thesis, Montana State Univ., 1955.

1178. BIR, S.S. (Panjab Univ.,Amritsar, India). Chromosome numbers of some Equisetum species from the Netherlands. Acta bot.Neer., 1960, 9,(2),224-34, figs. 13,tabs.2,bibl.15.
The chromosome counts of E. arvense, E. fluviatile and E. palustre were found to be 2n = 108 and E. trachyodon 2n = 216. Drawings of chromosomes of the above (except E. palustre) are given. A table gives chromosome counts of the above and 14 other Equisetum spp. - L.K. [O.BO.]

1179. CHABOT-JACQUETY, Y. (Lab.Bot., Sorbonne,Paris,France). Etude de meristeme apical de Rumex obtusifolius D.C. aux differentes phases du developpement. [A study of the apical meristem of Rumex obtusifolius D.C. at different stages of development.] C.R.Acad.Sci.Paris, 1960, 250,(8),1540-2, (F.), figs.4,bibl.2. [O.R.]

1180. CUTTER, E.G. (Univ.,Manchester, England). Studies of morphogenesis in the Nymphaceae - IV. Early floral development in species of Nuphar. Phytomorphology, 1959, 9,(3),263-75, figs.43,bibl.15.
Nuphar lutea, N. pumila and N. intermedia. [O.BO.]

1181. DANG-VAN-LIEM. (Fac.Pharmacie,Paris, France). Embryogenie des Euphorbiacees. Developpement de l'embryon chez le Mercurialis perennis L. [Embryogeny in the Euphorbiaceae. Development of the embryo of Mercurialis perennis L.] C.R.Acad.Sci. Paris, 1960, 250,(19),3217-9, (F.),figs.17, bibl.7. [O.R.]

1182. DEMALSY-FELLER, P. and DEMALSY-FELLER, M-L. Fasciations chez Cirsium vulgare. [Fasciations in C. vulgare.] Bull.Soc.Roy.Bot.Belg., 1957, 89,107,(F.) Reports the finding of several dozen m² of fasciated C. vulgare in Finistere in 1955. - L.K. [O.BO.]

1183. HUREL-PY. Recherches sur le comportement des prothalles de quelques Equisetum en milieu aseptique. [Research on the behaviour of the prothalli of some Equisetums in aseptic culture.] Rev. gen.Bot., 1959, 66,(786),419-49, (F.), figs.5,tabs.7,bibl.16. [O.BO.]

1184. MULLENDERS, W. and MULLENDERS, E. Les pollens de Viola tricolor L. tricolor et de Viola maritima Schweigg. [The pollen of Viola tricolor L. tricolor and of Viola maritima schweigg.] Bull.Soc.Roy. Bot.Belg., 1957, 90,(1),5-12, (F.), figs.4,tabs.2,bibl.12. [O.BO.]

1185. MACALPINE, R.I. A note on Mikania scandens. Two and a Bud, (Assam), 1959, 6,(1),6-8.
This climber,known as M. scandens though it is in fact M. cordata (an Asiatic sp. whereas M. scandens is American), is gradually invading the tea regions of western Bengal. Very sun-loving, its seeds have tufts of hairs and are carried by the wind for great distances. Cultivated areas are especially favourable for its development. Herbicides such as 2,4-D and sodium chlorate cannot be used to control it as they are toxic to tea. Only uprooting followed by destruction can be recommended. - Bull.agric.Congo belge, 51,(1),257.

1186. FINFROCK, D.C. and MILLER, M.D. (Rice Exp.Sta.,Davis,Calif.,U.S.A.) Wild rice. Leafl.Calif.agric.Exp.Sta. Ext.Serv., 1959, 116,pp.6, figs.3.
Description of uses, growth requirements and harvesting of Zizania aquatica. - L.K. [172(79.4)]

1187. MAKODZEVA, I.A. and KUDZIN, Yu.K. [Basic agrotechnical ways of controlling Acroptilon picris.] Vest.Selsk.Nauki, 1960, (4), 112-4, (Russ.), figs.1,tabs.2.
The soluble carbohydrates in Acroptilon roots were found to be mono- and di-saccharides and inulin; starch was absent. The carbohydrate content was found to increase with depth from 7.87% (dry weight) at the 0-20 cm to 25.06% at the 100-120 cm. The carbohydrate content reached a peak just before flowering and fruiting and a second (and higher) peak before winter. It was at a minimum in late July, which would be after the harvest of early ripening cereals. Cultivating a fallow immediately rosettes appeared gave a greater reduction in root carbohydrates than the usual fallow cultivations. On 1 plot the weed was found to increase from 4 shoots with a root length of 140 cm in May to 275 shoots with a root length of 352 cm in July of the following year. - L.K. [O.W.]

1188. WILKINSON, F.C. (Dep.Agric.,Perth, W.Aust.) Zamia palm poisoning. J.Agric. W.Aust., 1960, 1(IV), (2), 151-2, figs.1.
Macrozamia reidlei, a common plant in the jarrah and karri forest country, is toxic to cattle and causes "rickets" or "wobbles". Affected animals become partially paralysed and move with a staggering gait. The mature leaves are unpalatable and rarely eaten, but the young leaves, which appear after bush fires or on newly-cleaned country, are readily eaten. In feeding trials both the "nuts" and the leaves have caused poisoning in cattle and sheep, but naturally-occurring cases have always been caused by eating the leaves. - D.M.L.S. [O.RE.]

1189. SINCLAIR, W.K. Potato weed kills sheep. J.Dep.Agric.S.Aust., 1960, 63,(8), 338-9, figs.2.
A single season's grazing on land infested with Heliotropium europaeum may do little injury, but a second season's grazing may cause more than 30% mortality. Older sheep and British and crossbreeds seem to be most susceptible. The symptoms produced are described. - L.K. [O.W.]

AQUATIC AND WOODY WEEDS AND THEIR CONTROL

See also 1118,1139,1167, 1168,1245,1271.

1190. BELGIAN CONGO. [Water hyacinth (Eichhornia crassipes).] Rep.Inst.Nat. l'Etude Agron.Congo belge, 1958, 1959, 88.

1191. BAIFIELD, G.L. (Dep.Agric.,Thames, New Zealand). Chemical methods of drain cleaning. N.Z.J.Agric., 1960, 100,(1),21.
A mixture of dalapon 10 #, amitrol 5 # and 2,4-D (ethyl ester) 2 # appears to control

all weeds including the most resistant grasses such as Glyceria maxima, Paspalum spp. and tall fescue [Festuca arundinacea]; where such grasses are absent the rates of dalapon and amitrol can be reduced by at least a half. The first spraying should be done in spring, August being best, and a follow-up in early autumn. Spring applications are effective against G. fluitans, ranpo [Typha angustifolia] and Scirpus maritimus. Only autumn sprayings (February onwards) are effective against G. maxima and F. arundinacea. - D.M.L.S. [O.RE.]

1192. WALKER, L.C., BECK, E. and DUMBROFF, E. (Agric.Coll.,Athens,Georgia, U.S.A.) Absorption rates of 2,4,5-T tagged with carbon-14. For.Sci., 1959, 5,(2),128-37, figs.5,tabs.4,bibl.19.

The absorption of 3 formulations was compared. For Quercus nigra, absorption of the triethylamine salt was greatest,then acetone solution of the acid, then ammonium salt. For Liquidambar styraciflua, acetone was most readily absorbed and the ammonium salts least readily. Amounts absorbed between treatment and sampling (1-30 days) increased with elapsed time in L. styraciflua, but in Q. nigra the amounts increased only with the trichthylamine and then not quite significantly. In Q. nigra rates of absorption did not differ between upper and lower leaves. According to chromatographic tests, very little C^{14} in the 2,4,5-T was transferred to other compounds. - Partly from Author's Summary (modified). - D.M.L.S. [O.F.]

1193. TASMANIA. Seasonal notes. Autumn. Tasm.J.Agric., 1960, 31,(1),74-80.

p.77. Weed control. Includes the following recommendations:- Wattles [Albizia sp.] (up to 6 ft high) - drenching spray in January and February using 2,4,5-T (40%) 1 gal/200 gal water. Eucalypts [Eucalyptus spp.] (coppice and ligno tuber growth) - a mixture of 2,4-D/2,4,5-T in diesel fuel oil. - D.M.L.S. [O.RE.]

1194. MATTHEWS, L.J. (Dep.Agric.,Wellington, New Zealand). Weed identification and control. Broom. N.Z.J.Agric., 1960, 100, (3),229, figs.1.

Cytisus monspessulanus and C. scoparius are the 2 main wild spp., C. multiflorus is less common. Although declared noxious, they do not compete with productive pastures and are not serious weeds. Plants should only be sprayed when in full leaf. The best results have been obtained when plants are in the seed head stage in late summer or early autumn. However, leafless or mature plants have been satisfactorily controlled by 2,4,5-T oil soluble ester concentrates in diesel fuel oil. In establishing pastures, they are susceptible to 2,4-D (emulsifiable esters) 1 % when 4-6 in. high and to 2-3 % from 6 in. to semi-maturity. When approaching maturity they are better controlled by 2,4,5-T emulsifiable esters 2-3 %. - D.M.L.S. [O.RE.]

1195. IVENS, G.W. (Univ.Dep.Agric., Oxford,England). The effects of arboricides on East African trees and shrubs - IV. Tarchonanthus camphoratus L. and Euclea divinorum, Hiern. Trop.Agric.Trin., 1960, 37,(2),143-52, tabs.3,bibl.4.

These spp. are 2 of the worst woody weeds of grazing land in parts of the Kenya Highlands and are relatively resistant to chemicals, largely because of their great capacity for regeneration.

T. camphoratus. Frilled trees not previously cut were killed by basal application of 2,4,5-T in diesel oil 1.5% or 2,4-D 2.5% and retreatment with 0.5% controlled most of the regeneration. Water solutions or applications to unfrilled trees were much less effective. Regrowth after cutting was much more difficult to control, and although 2,4,5-T or 2,4-D killed the existing shoots, regeneration continued even after 3 treatments. Sodium arsenite paste applied to ring-barked trees killed the trunks but did not prevent regeneration. Monuron sprayed on the ground round the base of the tree at 18 g/tree killed about 60% of the trees and prevented basal regrowth.

E. divinorum. Mature trees were only very slowly affected by 2,4,5-T, 2,4-D or a 1:2 mixture of the 2, and regeneration was not prevented. Treatment of regrowth from stumps after cutting, of shoots from the ends of roots exposed by stumping, or of root suckers at a distance from the main stump gave varying results. There were no obvious differences between the 2 chemicals, and monuron was less promising than on T. camphoratus.

The season of treatment was not closely correlated with the degree of kill and it is concluded that though further work on the influence of the season of treatment on the effect of spraying might be useful with Euclea it is unlikely to produce a simple method of controlling Tarchonanthus regrowth. - Partly from Author's Summary (modified). - D.M.L.S. [O.RE.]

1196. ESTEVES DE SOUSA, A. The use of phytocides to control stump and other secondary plant growth in areas cleared against Glossinia austeni. Bol.Soc. Estud.Mocambique, 1959, 28,(115),83-112, (portuguese), figs.7,tabs.9,bibl.13.

Diesel oil was found to be caustic for use as a carrier for foliage sprays but was satisfactory for stump treatment. Water solutions were easily washed off. Illuminating paraffin proved efficient as a carrier.

Herbicides were applied to stumps immediately after cutting, to natural thickets ca. 6 ft high, and to regeneration 3-4 ft high from stumps. The main spp. are named. In all 3 cases a 1:1 mixture of 2,4,5-T + 2,4-D (butyl esters) was more effective than 2,4,5-T (butyl ester) alone. After stump treatment the mixture gave good results with Portulucaria caffra, Eugenia cordata, Combretum spp. and Spirostachys africana - all normally prone to sprout - as well as with other spp. A solution of ca. 11% was more effective than 5.5%. S. africana, E. cordata, and Combretum kranssii were resistant to stump treatment with 2,4,5-T 2.5-10% and sprouts of Dialium schlechteri, Combretum sp., Olea sp. and Albizzia sp. resistant to 2,4,5-T 2.5-5%. - D.M.L.S.

1197. EHRENREICH, J.H. and CROSBY, J.S. (For.Serv.,U.S.Dep.Agric.,Columbia,Missouri, U.S.A.) Forage production on sprayed and burned areas in the Missouri ozarks. J.Range Mgmt, 1960, 13,(2),68-70, figs.1, tabs.1,bibl.5.

The effects of a typical spring burn + 2,4,5-T 4 lb/100 gal oil-water emulsion in June were evaluated on an area where the main species were Quercus marylandica, Q. stellata, Q. velutina, Carya sp., Sassafras albidum, Rhus sp., Vaccinium sp. Tephrosia virginiana, and Andropogon scoparius. The small trees were sprayed to run-off and the larger trees girdled. Five years after treatment, total herbage yield on sprayed areas was about 5.5 times > on control areas and 4.5 times > on burned areas. A. scoparius and other perennial grasses accounted for nearly all the increased yield on the sprayed areas, due to the decrease in competition from the hardwood species. On burned and control areas A. scoparius contributed about 25% of the total yield compared with 65% on the sprayed area. Sorghastrum nutans and Panicum virgatum yielded about 100 % on sprayed areas and nothing on the burned or control areas. Tephrosia virginiana contributed only about 10% of the total herbage yield from sprayed areas, but made up more than half the total yield on burned and control areas, although there was no significant difference in its yield on the 3 areas.

Only about 12% of the total yield on sprayed areas consisted of unpalatable plants, whereas about 65% from burned and control areas was unpalatable. - J.W.B. [O.W.]

1198. BRAMBLE, W.C. and BYRNES, W.R. Use of a powerline right-of-way by game after chemical brush control. Pa Game News, 1958, 29,(9),19-25.

Sections of a right-of-way were treated in 1953-54. Broadcast, semi-basal, and basal spraying were tried in different ways and 1 section was cut. Broadcast spraying with AMS resulted in 90% bare ground. Fireweed, which is of slight wildlife value, dominated this ground the first year but gradually dwindled in later years; sweetfern, a shrub of some browse value to deer, increased later. All broadcast sprays killed such low shrubs as blueberry. Basal sprays caused little disturbance of shrubs and herbs; plant cover remained on 75% of area. All sprayed areas gradually reverting to bracken-sedge-herb-blueberry type. - From Biol.Abstr.,(Plant Sciences), 35,20302.

1199. BUTTERY, R.F., BENTLEY, J.R. and PLUMB, T.R. (For.Exp.Sta.,Berkeley,Calif., U.S.A.) Season of burning affects follow-up chemical control of sprouting chamise. Res. Note Pacific Stlwest.For.Exp.Sta., 1959, 154, pp.11, figs.2,tabs.4.

In an area where grassland was being established, the brush (dominated by Adenostoma fasciculatum) was burned, after crushing, in October, March or June, and the plots sown in the autumn and sprayed (with 2,4-D ± 2,4,5-T) in June or July for 1 or 2 years. Browsing by deer greatly affected growth and survival of the brush plants and masked some of the effects of season of burning, but the results indicated that late spring burning gave the best chance of brush control with only 1 chemical spraying. From the fire safety angle, early spring or late autumn burning is suitable but is more likely to require 2 chemical sprayings. - D.M.L.S. [O.F.]

1200. WONG YEW KWAN. (For.Res.Inst.,Malaya). Autecology of the Bertam palm - Eugeissona triste, Griff. Malay.Forester, 1959, 22,(4), 301-13, figs.8,bibl.7.

E. triste is an undesirable weed in Malayan forests on account of the dense thickets which restrict regeneration of timber spp. Its

distribution in Malaya, ecology, germination and growth habits are described. Spraying with crude mineral oil has proved ineffectual and repeated cutting or spraying with sodium arsenite solution without prior cutting will only give control of top growth. When applied after cutting down to near ground level and smashing the cut shoots, sodium arsenite 2 lb/gal water has been very effective. Complete control depends largely on killing the rhizomes and where practicable, mechanical uprooting is the most effective method. (See also next abstract). - D.M.L.S. [O.F.]

1201. WYATT-SMITH, J. (For.Res.Inst., Malaya). The control of Bertam palm - Eugeissona triste, Griff. Malay.Forester, 1959, 22,(4),314-26, tabs.2,bibl.16.

Trials with chemicals up to 1956 are briefly reviewed, those from 1957 onwards reported fully with details of costs, and the following conclusions stated:- (1) 2 cuttings to ground level with a 2-year interval followed by a third cutting 4 years later are enough to release regeneration; (2) 1 moderate application of 5% butyl ester of 2,4,5-T (5 lb a.e.) or 2% (10 lb a.e.) in diesel oil, or 1 heavy application of 1% (10 lb a.e.) or 2 applications of 1% (10 lb a.e.) with a 6 months interval, sprayed on to uncut clumps to a height of 4 ft to run-off, will kill clumps in a year; (3) aqueous solutions of a mixture of 2,4-D and 2,4,5-T butyl esters (Trioxone) used as a spray even at high concentrations have a varied effect; (4) after cutting and smashing the cut shoots, sodium arsenite 20% solution is effective but 10% solution or 2% 2,4,5-T (butyl ester 10 lb a.e.) no better after 1 year than a single cutting to ground level; (5) 2,4,5-T (amine) appears to be more effective as a spray than 2,4-D (amine) or monuron but is not entirely satisfactory; (6) sodium chlorate 2% sprayed on the fronds had no effect, whereas sodium arsenite 5% and 20% was very effective but undesirable because of handling risks; (7) the dense mat of dead fronds which results after spraying with 2,4,5-T rots enough after 2 years to expose the soil; (8) for mechanical control, a 40-50 h.p. tractor is necessary, preferably with a light dozer blade attached, and winch capable of a 10-ton-pull, and the lightest cable to take this pull.

Control of E. triste should be undertaken before final felling so as (a) to tackle it at a stage of minimal development (as E. triste responds to light), (b) to reduce sudden shock of increased light and exposure to seedlings present and (c) to improve conditions for successful regeneration before the removal of the economic mother trees. - D.M.L.S. [O.F.]

OTHER WEEDS AND THEIR CONTROL

See also 1113,1117,1118,1120,1123,1131, 1134,1136,1137,1150,1158,1187,1245.

1202. FROMENT, D. (Sta.rech.agron.,Nioka, Belgian Congo). Amenagement et exploitation des paturages a dominance de "Hyparrhenia" de la region de Nioka. [Management and exploitation of pastures dominated by Hyparrhenia in the Nikoa region.] Bull. d'Information de l'IRSAC, 1960, 9,(1), 49-70, (F.), figs.8,tabs.1.

The improvement of areas dominated by Cymbopogon afronardus is fully described and details of costs given. Various machines were tried for the eradication of C. afronardus, but uprooting tuft by tuft with a hoe, after burning, was found to be the best and most economic method. It is important to cut the tuft below the root neck after uprooting to prevent regrowth. - D.M.L.S. [O.RE.]

1203. GAST, A. and GROB, H. (Geigy Chem. Co.,Basle,Switzerland). Triazines in modern weed control. Brit.Agric.Chem. & Chem.Weed Control, 2,(1),4-8 in Pest Technol., 1960, 2,(8), figs.5.

Briefly reviews some ofthe properties of simazine, atrazine, propazine and prometone [methoxypropazine]. Includes the information that simazine is metabolised by sugar cane, Cynodon dactylon and Sorghum halepense as well as by maize, that millets tolerate propazine much better than simazine, that atrazine is effective against Carex sp., Potentilla reptans, Convolvulus arvensis and Lotus corniculatus, and that prometone is promising as a brush killer and for the control of millet grasses. - L.K. [O.W.]

1204. JACQUES-FELIX, J. and ALEGRE, G. (Cent.tech.d'Agric.trop.,Nogent-sur-Marne, France). Action de l'hydrazide maleique sur Cyperus rotundus. [Action of maleic hydrazide on Cyperus rotundus.] Agron. trop., 1958, 13,(6),789-90, (F.)

MH 0.33-3% in oil emulsified in water applied as a foliage spray to C. rotundus

2-6 cm high failed to kill the tubers and at 1% appeared to stimulate rhizome growth. Rice sown 3 weeks after treatment was injured by the 2% and 3% solutions. - D.M.L.S. [C.A.]

1205. PUTTARUDRIAH, M. (Dep.Agric., Bangalore, India). A preliminary note on NaTa as a weedicide. Mysore agric.J., 1959, 34,(1),2-4, bibl.4.
TCA (sodium) applied 3 times from June-July at 20 # with fortnightly intervals killed Cynodon dactylon and Cyperus rotundus. Applied similarly as a dust from November-December it controlled the grasses for 3 months but sprouting occurred after rain in the fourth week; Oxalis corniculata was top-killed but fresh seedlings emerged after 1 or 2 days. - D.M.L.S. [C.A.]

1206. ROGALEVA, R.S. [The control of couch grass by ploughing and fallow cultivations in the central Urals.] Trud. Sverdl.Selsk.Inst., 1958, 3,133-40, (Russ.)
Gives information on the biology of the weed [Agropyron repens] and on the basis of experiments recommends agrotechnical means of control. - Ref.Zh.Biol., 1960, 34800.

1207. ST. VINCENT. Rep.agric.Dep. St.Vincent, 1955, 1960, pp.68.
p.46-8. Herbicides. Sodium arsenite has proved useful for weed control in young and established Elephant grass. In arrowroot, bananas and cocoa it has given excellent weed control - weeds controlled include Axonopus compressus, Cynodon dactylon, Cyperus rotundus, Mimosa pudica, Chaetochloa sulcata, Commelina sp., Mimordia charahtia, Cuscuta sp., Ipomoea sp. and various Compositae. Sodium arsenite has also been used in young sugar cane, around orchard crops and for weed control before ploughing to ensure better and speedier disintegration of plant residues and better cultivation. The addition of 2,4-D or MCPA to sodium arsenite gives better control of "sedges and other herbaceous, waxy weeds". - L.K. [17(972.9)]

1208. SLAATS, M. and STRYCKERS, J. Beknopt verslag aan het I.W.O.N.L. over de onderzoekingen uitgevoerd in 1958-1959. [Short report on the investigations carried out from 1958-1959 by the I.W.O.N.L.] Rep. RijkslandbouwHogesch.Gent, 1960, pp.42, figs.tabs.
p.20-25. Gives the results of various systems of grazing on the botanical composition of an old pasture. A low sward favoured Taraxacum officinale, Bellis perennis, Cerastium arvense and Hypnum sp., and a high sward, Ranunculus acer and R. repens.
p.34-42. Weed control in permanent grassland. White clover was severely injured by early May applications of MCPA, 2,4-D and/or 2,4,5-T, mecoprop and 2,4,5-TP. 2 kg/ha MCPB (sodium or butyl), 2,4-DB (sodium) and 2,4,5-TB caused little injury, particularly MCPB (sodium); somewhat greater injury was caused by MCPB + MCPA 3:1, 7:1 or 15:1 or 2,4-DB + MCPA ca. 11:1. MCPA (sodium) 2 and 4 kg/ha, 2,4-D (sodium) 2 and 4 kg/ha and 2,4-D (amine) 1 and 2 kg/ha were applied in September or early October at intervals of 1, 2, 3 or 4 years from 1951-9. There was no consistant effect on white clover between years, number of applications or compounds but on average 2 kg/ha reduced stands by 68% for MCPA, 41% for 2,4-D (sodium) and 73% for 2,4-D (amine). No treatment affected the grass and the total of 9 applications eradicated all weeds.
At equal rates MCPB gave nearly as good control of Cirsium arvense as MCPA; cutting in May and applying 2,4-D (butoxyethanol) 2 kg/ha 9 days later was much less effective.
Heracleum sphondylium - mecoprop and 2,4,5-T gave poor results. An initial application of 2,4-D 0.2 kg/ha followed by 2 kg/ha 8 days later was poorer than a single application.
Angelica sylvestris is moderately, and Sanguisorba officinalis very, susceptible to 2,4-D (butoxyethanol) 2 kg/ha at flowering; 2,4,5-T was less satisfactory on both spp., particularly Angelica.
Ornithogalum umbellatum - 2,4,5-TP gave better results than 2,4,5-T.
The addition of a wetter did not improve results. 5-20 kg/ha propham and chlorpropham were not effective while MH 5-20 kg/ha and amitrol 15-20 kg/ha gave 50-75% control. - L.K. [102(493)]

1209. MONTGOMERY, F.H. and SWITZER, C.M. (Bot.Dep., Dep.Agric., Toronto, Ontario, Canada). Weed control in lawns. Bull.Ont.Dep.Agric., 1959, 529, pp.30, figs.26, tabs.1.
Twenty-six commonly occurring weeds of lawns are illustrated, and notes given on their identification and control include the information that Arenaria serpyllifolia can be controlled by potassium cyanate 2 oz + 2,4-D 1 oz in 4 gal water, 2,4,5-TP 1 oz in 5 gal water, or 2 or more treatments with 2,4-D during the early growth stages. Stellaria media and Cerastium vulgatum can

both be controlled by potassium cyanate 2 oz + 2,4-D 1 oz in 4 gal water. - J.W.B. [230(71)]

1210. NEW ZEALAND. Research and advisory work. Pastures. N.Z.J.Agric., 1960, 100, (1),37-41, figs.2.
To test the ability of Phalaris tuberosa to control tall fescue [Festuca arundinacea] under grazing conditions, it was sown with clovers on a swamp and the area closed to stock. Two cuts were taken for silage and then stock allowed to graze from about 9 months after sowing. Control was virtually complete whereas in an adjoining field sown with Italian ryegrass F. arundinacea re-established.
Very promising results were given by 2,4,5-T in controlling matagouri [Discaria toumatou] in stony foothill country where cultivation is impossible. Spraying should be followed by aerial oversowing and top-dressing.
Basal application of 2,4,5-T oil concentrate in diesel fuel oil (1:80) has given good control of sweet briar [Rosa eglanteria] in trials in South Island. In Otago the best treatment has been aerial application of 2,4,5-T 3.6 # followed by basal application of 2,4,5-T in diesel fuel oil. Trials in Canterbury, however, indicate that burning in the spring followed by basal treatment with 2,4,5-T in the autumn, is equally effective; oversowing and top-dressing immediately after the burn and sheep stocking after the basal treatment and throughout the winter is advised.
The best method of controlling gorse [Ulex europaeus] on unploughable hill country is to confine the gorse to dense blocks, burn them in a dry autumn, then sow with a grass/clover mixture at 30 # accompanied by heavy top-dressing + fertiliser and any minor elements required, and stock tightly with sheep continuously. If area is well fenced, no control of regrowth will be necessary until the second summer after sowing. This method has proved superior to others including helicopter or ground spraying with 2,4,5-T followed by burning, oversowing, heavy top-dressing and stocking. - D.M.L.S. [O.RE.]

1121. TIDEMAN, A.F. Tomato weed. J.Dep. Agric.S.Aust., 1960, 63,(8),329-31,350, figs.5.
Gives photographs and description of Solanum claegnifolium. It may be controlled by sowing competitive plants, e.g. lucerne or Phalaris, hand pulling or the use of soil sterilants. - L.K. [O.W.]

1212. BROWN, A.G. (For.& Timber Bur., Canberra,Australia). Mistletoe control on a large scale. J.Aust.Inst.agric.Sci., 1959, 25,(4),282-6, figs.3,tabs.2,bibl.3.
Further details are given of a cheap and rapid method of making trunk injections with 2,4-D for the control of mistletoe (Amyema miquelii and A. pendula) on Eucalyptus spp. (see Weed Abstr., 7,954). An estimate of the cost of treatment for trees averaging 16 in. in diameter is given. A variation in response between different Eucalyptus species was found to be due to different crown width to trunk diameter ratios. - J.W.B. [O.RE.]

1213. GÖKSEL, N. Yoncaliklardaki küskütü karsi kimyevi ve mihaniki mücadele metotlari üzerinde arastimalar. [Investigations on chemical and mechanical methods of controlling Cuscuta in lucerne.] Türkiye Ziraat Mecmuasi, 1958, (42),44-54, (Turkish.e.)
In 4 years' field trials, flaming or chlorpropham alone were found to be unsatisfactory for the control of C. arvensis and C. epithymum. The following method of control is recommended: when the lucerne is 30-35 cm tall and Cuscuta germination is beginning spray with 3.5-7 kg/ha chlorpropham in 150-300 l water, 4-6 weeks later mow the lucerne closely and flame the stubble, 7-10 days later retreat with chlorpropham (as above). - From Z.PflKrankh., 67,42. - L.K.

1214. WORSHAM, A.D., MORELAND, D.E. and KLINGMAN, G.C. (State Coll.,Raleigh,N. Carolina,U.S.A.) Stimulation of Striga asiatica (witchweed) seed germination by 6-substituted purines. Science, 1959, 130,(3389),1654-6, tabs.1,bibl.8.
Kinetin and certain other 6-substituted aminopurines stimulated germination of seed of Striga asiatica (L.) Kunze. Optimum concentrations for most active compounds was in the range of 5-25 mg/l. Derivatives which showed high activity possessed an adenine nucleus with a phenyl, benzyl, phenethyl, or furfuryl radical substituted on the amino group. - From Authors' Abstract. - L.K. [O.R.]

1215. LOBAY, W. and GOETTEL, A.W. (Dep. Agric.,Alberta,Canada). Chemical control of wild oats. Publ.agric.Ext.Serv.,Alberta, 1960, 144, pp.4.
Avadex (2,3-dichloroallyl diisopropylthiol carbamate) pre-planting 2 # a.i. is recommended for trial use only in sugar-beet,

rapeseed, sunflowers and peas, and 1.5 # a.i. in barley, for wild oat [Avena fatua] control. It should be diluted with at least 10 gal water/ac and incorporated into the top 2 or 3 in. of soil on the day of treatment.
Barbane as a post-em. treatment is discussed and it is noted that it is compatible with 2,4-D and MCPA. - J.W.B. [229(71)]

1216. NEURURER, H. Von welcher Unkrautpflanze stammt der unangenehme Geruch des Getreides? [From which weeds does the unpleasant smell of cereals derive?] Pflanzenarzt, 1959, 12,56-7, (G.)
Bifora radians, which may be controlled by dinitros, was found to be the cause. - From Z.PflKrankh., 67,175. - L.K.

1217. HOPMA, W.H. Onkruidbestrijding met IPC en DCP. [Weed control with propham and dalapon.] Meded.Inst.rat.Suikerprod., 1958, 28,(2),76-82.
The most satisfactory control of Alopecurus myosuroides and Poa annua in sugar-beet was obtained with 7.5 kg propham sprayed 14 days before sowing, or 5 kg propham applied 5-7 days before sowing. In the case of heavy weed infestations 5 kg propham, applied just before singling, gave satisfactory results. - Field Crop. Abstr., 13,(2),754.

1218. JOHNSON, R.T. and BURTCH, L.M. (Spreckels Sugar Co.,Spreckels and Woodland, Calif.,U.S.A.) The problem of wild annual sugar beets in California. J.Amer.Soc. Sugar Beet Technol., 1959, 10,(4),311-7, figs.2,tabs.3,bibl.2.
The evolution and nuisance value (especially as host for pests) of the annual Beta vulgaris is discussed.
Seedlings in grain crops can be controlled by 2,4-D but established plants with sizable tap roots require rates which would injure the crop.
Polychlorobenzoic acid was slow in getting results and at 625 p.p.m. gave poor control but at 1250 p.p.m. showed 82% control after 7 months. Amitrol 1-8 # was ineffectual.
On uncropped land monuron 20 # and Chlorea [mixture of monuron, sodium chlorate and sodium metaborate] 640 # both gave 90% control whereas Ureabor [sodium borates + monuron] and DB Granular [sodium borates + 2,4-D] both at 430 # were ineffectual. - D.M.L.S. [C.A.]

1219. BRZOSTOWSKI, H.W. (Pasture Res.Sta., Kongwa,Tanganyika). Sodom apple control. E.Afr.agric.J., 1960, 25,(4),214-19, tabs.7.
Species common in the Kongwa area are: Solanum delagoense, S. campylacanthum, S. delagoense var. obliquum, and an unidentified species. They are bad weeds in annual grass pastures but do not compete with perennial grasses. Propagation and growth habits are described. Slashing, burning or grazing and mowing after burning will not control it, and cultivations have to be repeated several times and a fast-growing crop sown and cultivated between the rows. 2,4-D (amine) 30 oz/ac and 2,4-D/2,4,5-T mixture 18 oz/ac gave complete control when applied twice in February and May. In another trial excellent control was given by the following applied in April with respray at reduced rate in February of the next year: 2,4-D (amine) 30 oz/ac, and (ester) 15 oz/ac, 2,4-D/2,4,5-T mixture (esters) 28-30 oz/ac, amitrol 4 # and 2,4,5-T (Weedone) 1.5 #. Late spraying in the dry or early rainy season was ineffectual. The best spraying time seems to be the flowering stage and the best results have been obtained when plants are burnt or slashed about 1 month before the start of the rainy season and then sprayed when new plants are 18-30 in. high. If not slashed or burnt it is best to spray when plants are covered with new leaves shortly after the start of the rainy season. Respray 2-3 months later if necessary or if the first spraying was late in the season wait until the beginning of the next rainy season. Spraying with 2,4-D (amine 3 oz/ac and ester 18 oz/ac) in April was less effective than in February. The 2 formulations gave equally good results but respraying was necessary. - D.M.L.S. [O.RE.]

1220. DIERCKS, R. and JUNKER, H. (Landesanst. PflBau.,München 23,Königinstrasse,Germany). Zur Bekämpfung der Hebstzeitlose. [The control of meadow saffron.] Prakt.Bl. PflBau., 1959, 54,(5),183-93, (G.), figs.8, tabs.1,bibl.11.
Colchicum autumnale grows on non-acid soils and prefers wet conditions. The seed capsules begin to appear above ground in May and cutting or allowing stock to trample at this time will adversely affect the weed. An early hay cut in June is too late. Manuring to increase the competitive ability of the sward is advantageous and the use of liquid manure in the spring appears to have a direct toxic effect on the weed. Pulling out or tearing off the shoots is also only

likely to be of use in May. 2-3 years cutting in May reduced the stand by 60-70% which was much more effective than MCPA + 2,4,5-T. - L.K. [225(43)]

1221. DOUGLAS, D.S., HATENRICHTER, A.L. and KLAGES, K.H. (Univ.,Moscow,Idaho,U.S.A.) Cultural methods and their relation to establishment of native and exotic grasses in range seedings. J.Range Mgmt, 1960, 13, (2),53-7, tabs.7.
Depending on the kind and amount of vegetation present, and various land and soil factors, the following methods were used to prepare land for the re-establishment of range forage species by seeding:- summer fallow, to eliminate competing plants; early burn; late burn; cultivation; and seeding directly without tillage or burning. The main species present at the beginning of these trials were Bromus tectorum, Artemisia tridentata, Sitanion hystrix, Chrysothamnus nauseosus, and some Agropyron riparium. The tillage operations were timed to kill B. tectorum at the late boot stage. Ploughing, fallowing or disking in the autumn reduced the competing Sitanion hystrix and allowed full development of seeded grasses; burning only reduced S. hystrix slightly.
Details are given of seeding the grass mixtures, including methods of planting, time, and the use of various species. - J.W.B. [O.W.]

1222. ELLERN, S.J. The control of weeds in flax, sugar beet and cotton. Mimeo.Rep. Dep.Agric.Rehovoth, 1960, pp.2, (Hebrew).
Briefly describes the weed problems in flax, sugar beet and cotton and methods of controlling these weeds. [Phalaris paradoxa] may be controlled by DNOC. - D.M.L.S. [29(569)]

1223. FLETCHER, W.W. (West of Scot.Agric. Coll.,6 Blythswood Sq.,Glasgow,C.2,Scotland). Some recent developments in bracken control. Scot.Fmr, 1959, 67,(3496),1252, figs.3, tabs.1,bibl.6.
Two successive annual treatments with "Teridox" [4-CPA (ester)] at 1, 2 or 4 gal/ac the first year + 0.5, 1 or 2 gal/ac the second year gave density reductions varying from 60% (for 1 + 0.5 gal/ac) to 93% (for 4 + 0.5 gal/ac). 1 + 1 gal/ac gave 80% density reduction and was probably the most economic. In trials in various localities with "Weedone Brackontrol" [4-CPA (ester)] results varied greatly with locality but % density reductions from July applications averaged 66 for 5 # and ca. 79 for 10 #. June applications were less effective. Spraying with 4-CPA (ester) by helicopter in August reduced density by 85% with 5 # and by 93% with 7.5 #. Late spraying when the thicker cuticle limits contact injury and hence aids translocation is advised. - D.M.L.S. [C.A.]

1224. ATKINSON, C.R. (Goslingmire,Hutton Rudby,Yarm,Yorks.,England). Ragwort : a certain cure. Fmr & Stk-Breed., 1960, (3678),96.
Stocking with sheep at 1 per ac throughout the year for 3 years is said to eradicate ragwort [Senecio jacobaea]. - L.K. [O.W.]

1225. AUSTRALIA. Pasture management for the south coast. Agric.Gaz.N.S.W., 1960, 71,(3),113-6,162, figs.5.
2,4-D (sodium) 2 # in early November will give 80% control of Bergalia tussock. In kikuyu pasture young tussock plants fail to establish whereas in paspalum they will readily re-establish from hard seed. Surface seeding golden tares in January-February gives grass an added competitive advantage against tussock. Chilean whitlow [Paronychia brasiliana] is susceptible to 2,4-D (sodium) 2 #. - L.K. [O.W.]

1226. BLACKMORE, L.W. (Dep.Agric., Dannevirke,New Zealand). Chemical pasture establishment on steep hill country. N.Z.J. Agric., 1960, 100, (2),125-31, figs.10.
The author describes in detail a successful trial in which dalapon 5 # + amitrol 1 # in 20 gal water was sprayed aerially on a 6-acre pasture of dominant browntop with some dogstail, ryegrass and white clover. A mixture of perennial ryegrass 35 #, cocksfoot 5 #, white clover 4 #, Montgomery red clover 3 #, Mt Barker subterranean clover 4 # and Tallarook subterranean clover 1 # was sown 21 days after spraying on 10th April. Molybdenised superphosphate was applied the same day as sowing and lime during May. Most of the browntop, the original white clover, flat weeds, moss and practically all the Scotch thistle [Cirsium lanceolatum] were killed by the herbicide but the ryegrass (in the hollows) survived and after a temporary check flourished. There was excellent strike of both grasses and clover. From early September to mid-October grasses were dominant - from mid-October to mid-December the sward was well balanced, and from mid-December to mid-March clovers completely dominant. The carrying capacity of the pasture was raised from 2-6 ewes/ac.

Costs of the trial are given. The author considers that more research is needed before chemical ploughing can be generally adopted. - D.M.L.S. [O.RE.]

1227. KRADEL, J. and FEYERABEND, G. (Dtsch.Akad.Landw.,Berlin,Germany). Zur nematiziden und herbiziden Wirkung von Na-N-methyldithiocarbamat. [The nematocidal and herbicidal action of SMDC.] NachrBl.dtsch.PflSchDienst,Berlin, 1960, 14,(3),54-9, (G.russ.e.), tabs.11,bibl.15.
SMDC 225-450 kg/ha gave results as good as sodium chlorate 150-200 kg/ha on Plantago major, Melandrium album, Convolvulus arvensis, Chaerophyllum bulbosum, Phragmites communis and couch grass [Agropyron repens]. The compound does not appear to have been applied to the surface nor sealed in, in any way. SMDC gave better weed control on unploughed, than on ploughed, ground. - L.K. [O.W.]

Noted

1228N. FULTS, J.L., DYBING, D. and BLOUCH, R. (A & M Coll.,Fort Collins, Colorado,U.S.A.) The control of crabgrass (Digitaria sanguinalis (L.) Scop.) Mimeo. Rep.Colo.A.& M.Coll., 1955, pp.7, bibl.28.
A literature review and a summary of experimental chemical control tests made in 1953 and 1954. - J.W.B. [45(78.8)]

CHEMISTRY, PHYSICS, TOXICOLOGY RESIDUES AND SOILS

See also 1117.

1229. BARAKAT, M.Z. and ABDALLA, A. (Univ., Cairo). A titrimetric method for determining arsenite in presence of arsenate. Analyst, 1960, 85,(1009),288-94, tabs.5,bibl.17.
By titration of sodium arsenite and arsenious oxide with N-bromosuccinimide which is irreversibly reduced to succinimide and HBr. - L.K. [O.R.]

1230. LISK, D.J. (Coll.Agric.,Cornell Univ.,Ithaca,N.Y.,U.S.A.) Herbicide residues, determination of small amounts of arsenic in potatoes: extraction and reduction of molybdoarsenic acid. J.Agric. Fd Chem., 1960, 8,(2),121-123, figs.2, tabs.2,bibl.10.
The following method was used to determine possible traces of arsenic in potatoes resulting from treatment with sodium arsenite just before harvest. Potato tissue is ashed with magnesium nitrate and the ash dissolved in acid. Acid-molybdate is added, followed by extraction with a 1-butanol-chloroform mixture to remove interfering phosphorous as molybdophosphoric acid. The aqueous solution is extracted with 1-butanol to remove arsenic as molybdoarsenic acid. A sulphuric acid-ethyl alcohol solution is then added followed by stannous chloride in ethyl alcohol to reduce molydoarsenic acid to the heteropoly blue. Spectrophotometric measurements of the blue colour at 740 mμ are compared with a standard curve. The effect of varying the concentration of acid and reducing agent on the blue colour is shown. The average content of arsenic found was 1.11 p.p.m. with a range of 0.86-1.40 (15 analyses). The average content of arsenic found in 7 analyses of untreated potatoes was 1.24 p.p.m. with a range of 0.93-1.34; interference by silicon probably accounted for part of this apparent arsenic. Silicon interference can be reduced by use of a 1-butanol ethyl acetate mixture for extraction of molybdoarsenic acid. The method yields an average recovery of 94.1%. - M.E.L. [O.W.]

1231. MOSZEW, J. and MIREK, J. (Univ. Krakow,Poland). Synthesis of several isomeric quinolineacetic acids. Roczniki Chem., 1959, 33,365-70.
From Chem.Abstr., 53,21946 h.

1232. MATOLCSY, G., HAMRAN, J. and VEGH, A. (Novenyvedelm Kutato Intezet,Budapest,Hungary). New s-triazine derivatives. Magyar Kem. Folyoirat, 1959, 65,282-3.
Derivatives of s-triazine were found to have herbicidal properties. Thus 2,4-bis(dimethyl-thiocarbamyl)thio]-6-chloro-s-triazine (I), lemon-yellow, m. 154-5°, was prepared by adding to a suspension of 18.45 g cyanuric chloride in 50 ml H_2O, 30 g 30% aqueous sodium dimethyldithiocarbamate solution at 25°, stirring 3 hours at room temperature, filtering off the precipitate, washing until Cl free, drying, and recrystallizing (Me_2CO). - From Chem.Abstr., 54,3446 i. - M.E.L.

1233. MITCHELL, L.C. (Dep.Health,Wash.25 D.C.,U.S.A.) Paper chromatography of 3-amino-1,2,4-triazole. J.Ass.off.agric.Chem.Wash., 1960, 43,(1),87-8.
One sample each of analytical and technical grades of amitrol were developed with aqueous p-dioxane. The amitrol was located in the chromatogram by heating immediately after it was sprayed with ammoniacal silver nitrate in ethanol. The chromogenic agent detects 0.5 µg amitrol. - Author's Summary. [O.R.]

1234. MELNIKOV, N.N. and KRAFT, V.A. Some derivatives of 4,5-dichloro-3,6-endoxohexahydrophthalic acid. J.gen.Chem.Moscow, [English transl.], 1959, 29,(3),949-52, tabs.1,bibl.11.
The method of synthesis, melting points, yields, boiling points and analysis for Cl of esters, amides and imides of 4,5-dichloro-3,6-endoxohexahydrophthalic acid and 3-methyl-4,5-dichloro-3,6-endoxohexahydrophthalic acid are given. - L.K. [O.R.]

1235. GREAT BRITAIN. (Plant Prot.Ltd., Fernhurst,Nr.Haslemere,Surrey,England). 'Reglone' a new herbicide and desiccant containing diquat. Tech.Data Sheet Plant Prot.Ltd., 1960, pp.16, tabs.7.
This technical data sheet gives information on the chemical and physical properties of diquat, its toxicology, residues found (all <1 p.p.m.) and summarises the results of tests of its use as a defoliant and/or desiccant in potatoes, cotton, legume seed crops (lucerne, crimson clover, red clover, white clover and birdsfoot trefoil), castor beans, sugar cane, tea and onions and of its use as a weedkiller. - L.K. [O.W.]

1236. DOVLATYAN, V.V. Synthesis of herbicides. I. γ-Chlorocrotyl ester of 2,4-dichlorophenoxyacetic acid ("Krotiline"). Izvest.Akad.Nauk Armyan S.S.R.Khim.Nauki, 1959, 12,(2),125-30.
From Chem.Abstr., 54,363 h.

1237. * ECKSTEIN, Z. and SZULCOWA, E. Some problems of obtaining weed killers. XV. Method of preparing 2,4,5-tribromophenoxyacetic acid (the bromine analogue of 2,4,5-T). Roczn.Chem., 1959, 33,(6),1477-83, (Polish.e.)

1238. VIGUERA, M. Preparation of the isopropyl ester of 2,4-D. Bol.inform.petrol., 1959, 314,313-15.
The ester is made by refluxing 2,4-D with absolute iso-PrOH, by using C_6H_6 as solvent and p-toluenesulfonic acid as catalyst. Continuous separation of H_2O formed gives yields about 75% of theory. - Chem.Abstr., 53,22692 g.

1239. SANDRI, G. Determination of synthetic phytoregulators. Ann.Chim., Roma, 1959, 49,1420-5.
MH may be determined volumetrically by oxidation with standard HIO_4 or $KBrO_3$ in presence of HCl. Cinnamic acid may be similarly determined with HIO_4, and coumarin with $KBrO_3$. - J.Sci.Fd Agric., 11,i-222.

1240. * SCHARRER, K. and SCHAUMLÖFFEL, E. Die quantitative Bestimmung kleinster Mengen Kupfer mittels Diäthyldithiocarbaminat (DDTC) als $Cu(DDTC)_2$. [The quantitative determination of the smallest amounts of copper with diethyldithiocarbamate (DDTC) as $Cu(DDTC)_2$. Landw. Forsch., 1958, 11, 59-60.

1241. BOKAREV, K.S. Some new acid amides - plant growth regulators. J.gen. Chem.Moscow, [English transl.], 1959, 29, (4),1334-39, tabs.1,bibl.13.
Gives the synthesis, yields, solvents for recrystallisation, melting points and analyses for N for 2,4-dichlorophenoxyacetyl-p-aminobenzoic and anthranilic acids; 2,4,5-trichlorophenoxyacetyl-p-aminobenzoic and anthranilic acids; 2,4,5-trichlorophenoxy-α-isobutyryl-p-aminobenzoic acid; α-naphthylacetyl-o- and p-aminobenzoic acids, 2,3,5-triiodobenzoyl-p-aminobenzoic acid; exo-cis-3,6-endoxohexahydrophthalic-p-carboxyphenylimido and anilide; ethyl esters of N-phenylcarbamyl- and phenylthiocarbamyl-p-aminobenzoic acids and of phenylcarbamyl-p-aminobenzoic acid. - L.K. [O.R.]

1242. KREWSON, C.F. and WOOD, J.W. (Agric.Res.Serv.,U.S.Dep.Agric.,Philadelphia 18,Pennsylvania,U.S.A.) Biologically active 2,4-dichlorophenoxyacetylated amino acids. J.org.Chem., 1960, 25,(1), 143-5, tabs.1,bibl.11.
The following derivatives of 2,4-D were prepared by the Schotten-Baumann reaction (melting points, yields, optical rotations and analyses given): D and β-alanine; L-, D- and DL-asparagine; D-glutamic acid; glycylglycine; L- and D-isoleucine;

D-leucine; L- and D-serine; L- and D-threonine; L- and D-tryptophane; L- and D-valine and also N,N'-bis(2,4-dichlorophenoxyacetyl) D- and DL-cystine. - L.K. [O.R.]

1243. BLANCHARD, F.A., MUELDER, W.W. and SMITH, G.N. (Dow Chem.Co.,Midland, Mich.,U.S.A.) Herbicide uptake and distribution. Synthesis of C_{14} labeled dalapon and trial applications to soybean and corn plants. J.agric.Fd Chem., 1960, 8,(2),124-8, figs.6,tabs.4,bibl.15.

A synthesis of 2-C_{14} labelled dalapon of 1 mc/m mole by direct chlorination of propionic acid is described. Separation from other chlorinated acids was achieved by chromatography on phosphate-buffered silica gel. The yield, based on propionic acid, was 32 mole %; radiochemical purity, 96%. Radioautographs of (a) soybean and (b) corn plants whose roots were exposed to C_{14} dalapon showed that the % of applied activity taken into the roots and into the tops was (a) 0.6 and 2 respectively and (b) 0.5 and 9. In soybean plants having one primary leaf spotted with C_{14} dalapon, the leaf opposite the treated leaf and the roots had least activity; about 2% of the applied activity moved into parts of the plant other than the treated leaves. In both the root and leaf experiments there were higher radioactivity concentrations in young tissues. Radioactivity recovered by extractions was identified as dalapon by paper chromatography. No breakdown products were found. - M.E.L. [O.W.]

1244. TOLBERT, N.E. (State Univ., E.Lansing,Mich.,U.S.A.) (2-chloroethyl) trimethylammonium chloride and related compounds as plant growth substances. J.biol.Chem., 1960, 235,(2),475-9, tabs. 1,bibl.11.

The synthesis of the compounds is briefly described. All the compounds inhibited stem growth of wheat to a greater or lesser degree depending on concentration. The related compounds were alkyl ammonium bromides, chlorides, iodides, choline, betaine, 1,2-dichloroethane, 1,2-dibromoethane, 1,2-dibromoethylene, thymohydroquinone, 2-isopropyl-4-dimethylamino-5-methylphenyl-1-piperidinecarboxylate methylchloride, benzyltributyl phosphonium chloride and tributyl-2,4-dichlorobenzylphosphonium chloride. - L.K. [O.R.]

1245. RAKITIN, Yu.V. [Chemical compounds stimulating and inhibiting plant physiological processes.] Akad.Nauk S.S.S.R., 1958, pp. 610, (Russ.) bibl.

This collection of reviews of Russian and other work (published mainly between 1953 and 1956) is in 2 sections and deals with (1) the chemistry and (2) the uses and effects of the title compounds. The first section (on chemistry) consists of: general introduction (p.7-44), inorganic compounds used as herbicides, defoliants and desiccants (p.47-58), hydrocarbons, halogenated hydrocarbons and nitro-compounds (p.59-68), alcohols, phenols and simple ethers (p.69-78), aldehydes and ketones (p.79-89), aliphatic carboxylic acids (p.90-115), alicyclic carboxylic acid (p.116-122), aromatic carboxylic acids (p.123-144), aryloxyalkylcarboxylic acids (p.145-201), amides and their derivatives (p.202-211), derivatives of carbamic and thiocarbamic acid (p.212-48), heterocyclic compounds (p.249-270). The second section includes: defoliation (p.456-480), desiccation (p.481-491), control of broad leaved weeds in graminaceous crops (p.492-548), weed control in broad leaved crops (p.549-581), control of woody weeds, weed control in meadows, pastures and nurseries (p.582-608). The bibliographies at the end of each section are in some cases quite extensive and cite mainly non-Russian work. - L.K. [O.W.]

1246. RODZIEWICZ, W. and WOJNOWSKI, W. (Politechnika,Gdansk,Poland). Properties, synthesis, and utilization of pentachlorophenol. Przemysl Chem., 1959, 38,146-50, bibl.44.

A review. - From Chem.Abstr., 54,359 h.

1247. BOKAREV, K.S. and MELNIKOV, N.N. Synthesis of some N-α-naphthylacetylamino acids. J.gen.Chem.Moscow,[English Transl.], 1959, 29,(3),953-6, tabs.1,bibl.16.

The synthesis, yields, recrystallisation solvents, melting points, $[\alpha]^{19}D$, % N and neutralisation equivalents of N-α-naphthylacetyl-glycine, aniline, DL-serine, DL-valine, DL-leucine, DL-norleucine, DL-threonine, DL-phenylalanine, DL-aspartic acid, L- and DL-asparagine, L- and DL-glutamic acids and of N,N'-bis-α-naphthylacetyl-L and DL cystine are given. - L.K. [O.R.]

1249. FRIDDT, G. (VEB Berlin-Chemie, Teltow-Seehof,Germany). Ein Gerät zur

Bestimmung der Schwebefähigkeit von Spritzmitteln. [An apparatus for determining the suspensibility of spray substances.] NachrBl. dtsch.PflSchDienst,Berlin, 1960, 14,(2), 32-7, (G.russ.e.), figs.7,bibl.9.
The apparatus, which is illustrated in detail, consists of a frame holding 6 burettes fitted with rubber bungs. The frame is pivoted at the centre to allow simultaneous inversion of all 6 burettes. Under the frame is a wooden platform holding 6 rows of small glass dishes partially filled with water in which the tips of the burettes are immersed. At the beginning of the determination the taps are opened and after various intervals the platform is moved to place fresh rows of dishes under the burettes. The amount of material sedimenting may then be estimated gravimetrically. The method of preparing the suspension and the concentration were found to affect the rate of sedimentation. - L.K. [O.W.]

1249. GILL, R.E. (Shell Int.Chem.Co.) Specifications. How they are used. Span, 1960, 3 ,(2),81-4.
A general discussion with particular reference to emulsifiable concentrates and wettable powders. - L.K. [O.W.]

1250. GERMANY. Richtlinien des Bundesgesundheitsamtes und der Biologischen Bundesanstalt für Land- u. Forstwirtschaft für Vorsichtsmassnahmen bei der Anwendung von Chlorpikrin zur Bodenentseuchung van 3. Juli 1957. [Direction of the Bund Health Office and the B.B.L.F. regarding precautions in the application of chloropicrin for soil disinfection 3rd July, 1957.] Merkblatt Biol. Bundesanst.Land- u.Forstwirt., 1957, 17, pp.4, (G.)
The sections are: physical and chemical properties; physiological properties; recommended marking, treatment in storage and transport and of empty containers; recommendations for use; prevention of accidents and procedure in case of poisoning. - L.K. [228(43)]

1251. NEW ZEALAND. Toxicity of DNBP to cattle.
In an investigation into the cause of an outbreak of mucosal disease, it was established that dinoseb was not responsible as the symptoms produced by heifers fed with dinoseb were quite different. There is no evidence to suggest that dinoseb used according to makers' instructions has any adverse effect on stock grazed later on sprayed areas, but the dangers to stock of freshly sprayed crops should be appreciated. - D.M.L.S. [O.RE.]

1252. FROST, D.V. (Abbott Lab.,North Chicago,Illinois,U.S.A.) Arsenic and selenium in relation to the food additive law of 1958. Nutr.Rev., 1960, 18,(5),129-32.
The writer reviews the literature and casts doubt on the idea that arsenic is a potential carcinogen. - L.K. [O.R.]

1253. BODENSTEIN, G. and MÜLLER-BASTGEN, G. (C.H.Boehringer Sohn,Ingelheim am Rhein, Germany). Untersuchungen über die Toxizität einiger Herbizide für Fische. [Investigations on the toxicity to fish of some herbicides.] Z.PflKrankh., 1960, 67,(3),150-3, (G.e.), tabs.1,bibl.10.
Reports experiments on the toxicity of 2,4,5-T, dalapon, MCPA, chlorpropham and monuron to guppies (Lebistes reticulatus). - L.K. [O.R.]

1254. UNITED STATES. Special labeling from cranberries and cranberry products, 1958 and 1959 crops. Fed.Reg., 1959, 24, 9543-4.
The method of sampling and examination of cranberries used by the Food and Drug Administration for the determination of amitrol in fresh cranberries and canned cranberry products is given in detail. Lots from which composites made up of equal portions from 12 subdivisions which show more than 0.15 p.p.m. on an uncorrected for blank basis will be destroyed. - Chem.Abstr., 54, 3780 a.

1255. UNITED STATES. Tolerances for residues of sodium 2,2-dichloropropionate. Fed.Reg., 1959, 24,9544.
A revision of the Federal Food, Drug and Cosmetic Act to permit residues of 15 p.p.m. in or on peaches and 5 p.p.m. in or on cranberries. - From Chem.Abstr., 54,3780 b. - L.K.

1256. UNITED STATES. Tolerances for residues of diuron. Fed.Reg., 1959, 24,8374.
A revision of the Federal Food, Drug and Cosmetic Act to permit residues of 2 p.p.m. on or in wheat hay, wheat forage and wheat straw and 1 p.p.m. on or in wheat grain. - From Chem.Abstr., 54,3767 i. - L.K.

1257. GUSTAFSSON, M. Bekämpningsmedelsrester i gröda och jord. [Pesticide residues in crops and soil.] K.Lantbr-Akad.Handl.,Stockh., 1960, Suppl.4, pp.107, (Sw.e.), bibl.569.
A review dealing mainly with pesticides other than herbicides. The main section headings are (1) analysis of residues, (2) pesticides on and in crops, (3) pesticides in animals and man, (4) residues in the soil, (5) the ecological effect of pesticides, (6) the residue problem in Sweden; practical measures. - L.K. [O.W.]

1258. POCHON, J., TARDIEUX, P. and CHARPENTIER, M. Recherches sur les interactions entre les aminotriazines herbicides et la microflore bacterienne tellurique. [Investigations on the interactions between amino triazine herbicides and the telluric bacterial microflora.] C.R.Acad.Sci.Paris, 1960, 250,(8),1555-6, (F.)
Simazine, atrazine, propazine and prometone [methoxy-propazine] were mixed with various soils of pH 5-7.8 and humus contents of 0.03-0.175% at rates equivalent to ca. 12 kg/ha. When kept at 28° for 15 days, no treatment had any effect on CO_2 output or total microflora population (including aerobic nitrogen fixing, ammonifying, nitrifying, denitrifying, aerobic cellulolytic and amylolytic bacteria). Even 250 kg/ha had no apparent effect. - L.K. [O.R.]

1259. GUILLEMAT, J. (Ecole Nat.,Grignon, France). Interactions entre la simazine et la mycoflore du sol. [Interactions between simazine and the fungal flora of the soil.] C.R.Acad.Sci.Paris, 1960, 250, (7),1343-4.
Whether observed a few days or 3 or 6 weeks after application, simazine 300 kg/ha was found to have no serious effect on the mycological balance of soil in pots. In field tests 6 kg/ha had had no effect when observed 6 months after application. High concentrations of simazine were fungicidal to cultures of fungi. In the absence of carbon cultures were almost unable to utilise simazine, but in the presence of carbon the nitrogen contained in simazine was utilised. - L.K. [O.R.]

1260. JENSEN, H.L. (State Lab.Soil Crop. Res.,Lyngby,Denmark). Decomposition of chloroacetates and chloropropionates by bacteria. Acta agric.Scand., 1960, 10,(1), 83-103, figs.5,tabs.10,bibl.21.
Pseudomonas dehalogenans, Arthrobacter sp. and Agrobacterium sp. isolated from the soil decomposed monochloroacetate (1), dichloroacetate (2), TCA, α-monochloropropionate (3), and dalapon with the release of ionic chlorine. P. dehalogenans was most active on (1) and (2), Arthrobacter sp. on TCA and (2) and Agrobacterium sp. on dalapon and (2). Shaking the culture media strongly accelerated bacterial activity. Experiments with P. dehalogenans showed adaptation and cross-adaptation to occur. - Mainly from Author's Summary. - L.K. [O.RE.]

APPLICATION AND MACHINERY

1261. BARFIELD, A.R. (Farm Intelligence Ltd.,London,England). '59 Called poor year for crop spraying in England. Agric.Chemic., 1960, 15,(5),61,109.
Briefly discusses the difficulties of aerial spraying in England. As most aerial spraying in the U.K. is against blight, the very dry summer of 1959 reduced the acreage sprayed by half compared with 1958. - L.K. [O.W.]

1262. AKESSON, N.B. Aircraft equipment for spreading dry materials, dusts, granules and seeds. Pap.Aircr.Operat.Short Course (U.S.A.), Mar.1959.
A general article considering hoppers, agitators, spreaders, granular materials and calibration of aircraft dry spreaders. - L.K. [175(79.4)]

1263. AKESSON, N.B. (Univ.,Davis,Calif., U.S.A.) The aircraft as a machine for distributing agricultural materials. Mimeo. Rep., (n.d.), pp.11, figs.7.
A general paper discussing the flow of sprays and dusts from aircraft. - L.K. [176(79.4)]

1264. YATES, W.E. (Univ.,Davis,Calif., U.S.A.) Principles of aircraft spraying. Mimeo.Rep., (n.d.), pp.12, figs.16.
A general paper covering sprays, pumps and drives, tanks and valves, booms, nozzles, spray deposit patterns and calibration. - L.K. [177(79.4)]

1265. UNITED STATES. Underground spraying kills weeds. Agric.Res., 1960, 8,(11),6-7, figs.3.
Applying EPTC by underground spraying gave 90% weed control compared with 74% by surface treatments incorporated by rotary hoe. Underground application is made by mounting a short boom in the angle of a horizontally mounted V-shaped blade dragged 2-6 in. below the soil surface and spraying towards the rear. The device worked at up to 5 m.p.h. on loams but tended to clog on heavy clay. - L.K. [O.W.]

1266. SOMERS, E. (Long Ashton Res.Sta., Bristol,England). Physical aspects of the efficiency of sprays. N.A.A.S.Quart.Rev., 1959, 46,68-75, bibl.36.
A review dealing with the impaction, retention, coverage and distribution, and tenacity of agricultural sprays. - D.M.L.S. [O.RE.]

1267. CALPOUZOS, L., BRUN, W.A., THEIS, T. and COLBERG, C. A precision spray technique for evaluating oils for Sigatoka disease control on individual banana leaves in the field. Phytopathology, 1960, 50,(1),69-72, figs.6,tabs.1,bibl.4.
The apparatus consists of an artist's airbrush which is inserted in a holder at the top of a muslin covered wire frame. The liquid container is a 1 ml pipette which fits into the fluid intake of the airbrush. - L.K. [O.BO.]

1268. COURSHEE, R.J. (N.I.A.E.,Wrest Park, Silsoe,Beds.,England). A laboratory applicator for pesticides. Agric.Vet.Chemic., 1960, 1,(1),34, figs.1.
A photograph and very brief description of a small scale experimental sprayer. Its main characteristics are easy control of volume (equal to 10-1000 l/ha) and uniform droplet size (50-500 μ). - L.K. [O.W.]

1269. DORMAN, A.K. British crop spraying machinery - a survey. Agric.Vet.Chemic., 1960, 1,(1),42-47, figs.5,tabs.4.
A review of developments in crop spraying machinery since the war. The tables briefly summarise the main characteristics of a number of commercially available low, medium and high volume sprayers. - L.K. [O.W.]

1270. WARD, H. (Mike Webster State Nursery, Tumwater,Wash.,U.S.A.) Simplified hand weeding tool. Tree Plant.Notes, 1959, (38), 17, figs.3.
The weeder is similar in shape to a potato peeler 6 in. long and can be made for 20 cents. It has proved very effective. - D.M.L.S. [O.F.]

1271. WALTERS, R.S. (Cent.States For. Exp.Sta.,Athens,Ohio,U.S.A.) Modified girdler shows no advantage. Sta.Note Cent.Stat.For.Exp.Sta., 1959, 135, pp.2.
Trials showed no advantage in using a girdler modified to cut a J-shaped notch rather than the standard C-shaped notch; the herbicide was not held any better in the girdle. - D.M.L.S. [O.F.]

PHYSIOLOGY, MORPHOLOGY AND ANATOMY

See also 1192,1243,1244.

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Synthesis.- From Chem.Abstr., 54,2258 f.

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MISCELLANEOUS

See also 1037.

1370. NETHERLANDS. De ontwikkeling van de voorlichting over planteziekten - en onkruidbestrijding. [The development of advisory work on plant diseases and weed control.] Landbouwvoorlichting, 1960, 17,(3),99-105, (Du.).
From Landbouwdocumentatie, 1960, 643.- L.K.

1371. PETERSEN, H.I. (Statens Ukrudtsforsøg,Skovlunde,Denmark). Årsoversigt for Statens Ukrudtsforsøg 1958. [Annual report for State Weed Research 1958.] Tidsskr. Planteavl., 1960, 63,(5),837-47, (Dan.e.), figs.1,tabs.8.
Briefly outlines experimental work in progress, enquiries dealt with, chemicals tested, growing conditions and mentions the exceptionally satisfactory results obtained in practice. 463 replies to a questionnaire showed that agerkål [Brassica campestris] and Cirsium arvense are still the most troublesome weeds, although they are decreasing, while Polygonum spp., Chrysanthemum segetum, Galium aparine, Galeopsis spp., Anchusa arvensis, Stellaria media and Agropyron repens are increasing. - L.K. [95(489)]

1372. UNITED STATES. Pesticide situation for 1959-60. Agric.Chemic., 1960, 15,(5), 41-3,101, tabs.5.
In 1958 herbicides accounted for 26% (by value) of the synthetic pesticides produced in the U.S.A. In 1959 production of 2,4-D increased by ca. 5 mn. lb to ca. 60 mn. lb, sodium chlorate from 134.498 mn. lb to 175.330 mn lb and 2,4,5-T (acid) from 3.678 mn. lb to 5.583 mn. lb. Manufacturers' stocks of 2,4-D and 2,4,5-T fell by 54 to 14% respectively, but those of other weed-killers rose by 56%. - L.K. [O.W.]

1373. FRYER, J.D. (Dep.Agric.,Oxford, England). Field evaluation of selective herbicides. Span, 1960, 3,(2),53-7.
A discussion of how to plan a programme for the testing of herbicides in the field. - L.K. [O.W.]

1374. BÖRNER, H., MORGENSTERN, W. and RADEMACHER, B. (Landw.Hochschule,Stuttgart-Hohenheim,Germany). Markierung von Unkrautsamen (Sinapis arvensis L.) mit S-35. [Labelling weed seeds (Sinapis arvensis L.) with S-35.] Naturwissenschaften, 1960, 47, (5),116, (G.), figs.1,bibl.3.
It was found possible to label seeds of S. arvensis by transferring 4-week-old plants from pure nutrient culture to one containing 3mC S-35/4 l. 77% of the labelled seeds germinated and seedling development was normal. - L.K. [O.R.]

1375. CIFERRI, R. (Bot.Inst., P.O.Box 165,Pavia,Italy). Il diserbo chimico fitormonico nell'Italia centro-meridionale. [Weed control with growth regulator herbicides in central and southern Italy.] Mondo agric., 1959, 10,(5),12-13, (It.)
Includes the information that only 5% of the wheat crop in the northern part and 2-3% in the central and southern parts of Italy are sprayed with growth regulator herbicides. - From Ref.Zh.Biol., 1960, 30062. - L.K.

1376. FRANCE. Lutte chimique contre les mauvaises herbes dans les pays d'Outre-mer. [Chemical weed control in countries overseas.] Circ.ORSTOM Cent.tech.Agric. trop., 1957, 57-2,pp.52, (F.), tabs.11, bibl.26.
This circular gives general information on the various herbicides and a list of commercial herbicides available in France with their formulations. It also reviews some recent results with herbicides overseas in the following crops and weeds: maize, sorghum, rice, groundnuts, peas and beans, cotton, coffee, cocoa, citrus, pineapples, bananas, sugar cane, woody weeds, water hyacinth [Eichhornia crassipes], Imperata cylindrica, Digitaria scalarum and Cyperus rotundus. Successful results include monuron 10-20% for E. crassipes; AMS, 5-6 l/ha of 14-18% water solution, for I. cylindrica (2 treatments necessary on heavy soils); 2,4-D or 2,4,5-T 1-10% (according to size) in dieseline on the base of regrowth and visible roots of Rubus myrianthus; and ring-barking at height of 30 cm followed by sodium arsenite 1 kg/10 l water for Ocotea usambarensis. - D.M.L.S. [C.A.]

1377. MAURITIUS (Sug.Res.Inst.,Reduit, Mauritius). Sales of herbicides. Rep. Maur.Sug.Ind.Res.Inst., 1959, pp.118.
Appendix table 19 gives the sales of weedkillers in Mauritius in 1959 as: MCPA 11 044 gal, 2,4-D 44 181 gal, 2,4-D + 2,4,5-T 4 136 gal, PCP 1 534 gal. sodium chlorate 173 383 lb, TCA 264 389 lb, sodium arsenite 150 gal + 7 000 lb, other herbicides 1301 lb. - L.K. [O.W.]

1378. AUSTRIA. Amtliches Pflanzenschutzmittelverzeichnis und Pflanzenschutzgeräteverzeichnis 1960. [Official register of plant pesticides and plant protection machinery 1960.] Pflanzenarzt, 1960,13, (Sn.1), pp.43, (G.)
Includes names, active ingredients, and uses of herbicides (p.28-32), potato haulm killers (p.32), spraying and dusting machinery (p.34-38), names and addresses of manufacturers (p.42-43). - L.K.

1379. GERMANY. Bedingungen für die amtliche Prüfung von Pflanzenschutz- und Vorratsschutzmitteln. [Conditions for the official testing of pesticides for plant protection and stored products.] Ber.Biol. Bundesanst.Land-u. Forstwirt., 1957, pp.12. [226(43)]

1380. GREAT BRITAIN. Notification of Pesticides Scheme agreed between government and industry. Min.Agric.Fish.Fd, 1960, pp.16.
The voluntary scheme to ensure the safe use of pesticides is described and this is followed by 3 appendices, viz: (1) information requested in support of a notification, (2) the scope of toxicological studies in relation to the safe use of pesticides and (3) guidance on the provision of residue data in support of a notification. - L.K. [O.W.]

Noted

1381N. DATTA, S.C. (Jadavur Univ.,India). Weeds and weed control. Indian Agriculturist, 1959, 3,(1),26-36.
A general article. - L.K. [22(54)]

List of Common Names and Chemical Abbreviations

Revised April, 1960.

The following list, based on that adopted by the Weed Society of America has been approved by the British Weed Control Council, except those marked □.
An asterisk (*) signifies common names approved by the B.S.I.
A plus sign (+) signifies approval by the Weed Society of America.

amiben □+	3-amino-2,5-dichlorobenzoic acid
amitrol +□	3-amino-1,2,4-triazole.
AMS □+	ammonium sulphamate
atrazine □+	2-chloro-4-isopropylamino-6-ethylamino-1,3,5-triazine
barbane □+	4-chloro-2-butynyl-N-(3-chlorophenyl)carbamate
CDAA +	2-chloro-N,N-diallylacetamide
CDEA +	2-chloro-N,N-diethylacetamide
CDEC +	2-chloroallyldiethyldithiocarbamate
chlorpropham *	isopropyl-N-(3-chlorophenyl)carbamate
4-CPA +	4-chlorophenoxyacetic acid
4-CPB	4-(4-chlorophenoxy)butyric acid
2,4-D +*	2,4-dichlorophenoxyacetic acid
3,4-DA +	3,4-dichlorophenoxyacetic acid
dalapon +*	2,2-dichloropropionic acid
2,4-DB *	4-(2,4-dichlorophenoxy)butyric acid
DCU +□	dichloralurea
2,4-DEB +	2,4-dichlorophenoxyethyl benzoate
2,4-DES +*	sodium 2,4-dichlorophenoxyethyl sulphate
dichlone +*	2,3-dichloro-1,4-naphthaquinone
dinosam *	2-s-amyl-4,6-dinitrophenol
dinoseb *	2-s-butyl-4,6-dinitrophenol
diquat +	1,1'-ethylene-2,2'-dipyridylium dibromide
diuron +	N-(3,4-dichlorophenyl)-N',N'-dimethylurea
DMTT +□	3,5-dimethyltetrahydro-1,3,5,2H-thiadiazine-2-thione
DNOC *	2-methyl-4,6-dinitrophenol or 3,5-dinitro-o-cresol
2,4-DP	2-(2,4-dichlorophenoxy)propionic acid
endothal +	3,6-endoxohexahydrophthalic acid
EPTC +□	ethyl-N,N-dipropylthiolcarbamate
erbon +	2-(2,4,5-trichlorophenoxy)ethyl-2,2-dichloropropionate
fenac □ +	2,3,6-trichlorophenylacetic acid
fenuron +	N-(phenyl)-N',N'-dimethylurea
ipazine □+	2-chloro-4-diethylamino-6-isopropylamino-1,3,5-triazine
MCPA +*	4-chloro-2-methylphenoxyacetic acid
MCPB *	4-(4-chloro-2-methylphenoxy)butyric acid
MCPES +	sodium 4-chloro-2-methylphenoxyethyl sulphate
mecoprop *	dl-2-(4-chloro-2-methylphenoxy)propionic acid
MH +□	maleic hydrazide
monuron +*	N-(4-chlorophenyl)-N',N'-dimethylurea
neburon +	N-(3,4-dichlorophenyl)-N'-butyl-N'-methylurea
NPA +	N-1-naphthylphthalamic acid
PCP +	pentachlorophenol
PMA +	phenyl mercuric acetate
propazine □+	2-chloro-4,6-bis(isopropylamino)-1,3,5-triazine
propham *	isopropyl-N-phenylcarbamate
simazine+	2-chloro-4,6-bis(ethylamino)-1,3,5-triazine
SMDC +□	sodium methyl dithiocarbamate
2,4,5-T +*	2,4,5-trichlorophenoxyacetic acid
2,4,5-TB	4-(2,4,5-trichlorophenoxy)butyric acid
2,3,6-TBA +	2,3,6-trichlorobenzoic acid
TCA +	trichloroacetic acid
2,4,5-TES +	sodium 2,4,5-trichlorophenoxyethyl sulphate
2,4,5-TP	2-(2,4,5-trichlorophenoxy)propionic acid
trietazine □+	2-chloro-4-diethylamino-6-ethylamino-1,3,5-triazine
3Y9 □	tris-(2,4-dichlorophenoxyethyl)phosphite

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